Public Utilities

Volume 65 No. 2 January 21, 1960

In Two Sections—Section I

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WANTED—A NEW ERA IN PERSONNEL MANAGEMENT

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« »

A Marketing Philosophy for Public Utilities

By O. E. Zwanzig

« »

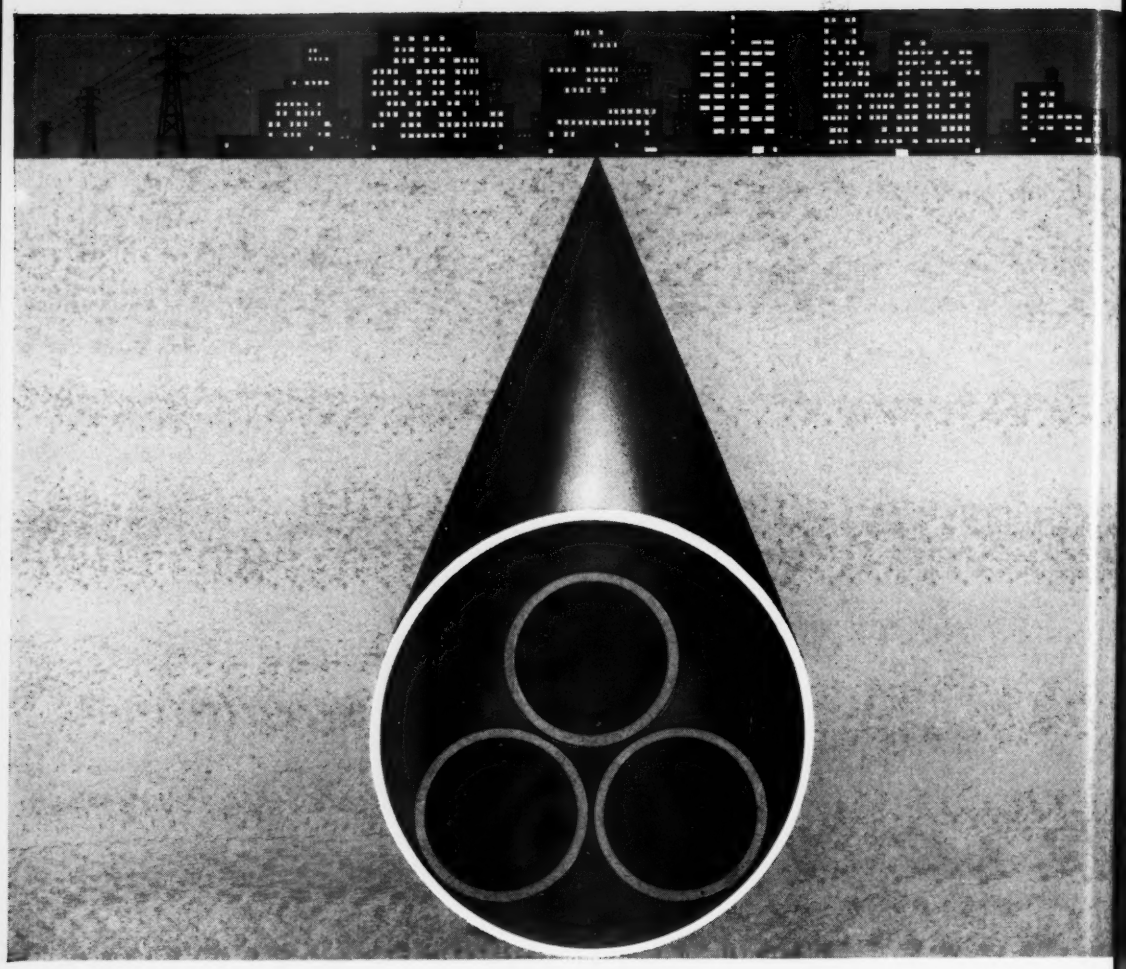
Outlook for Telephone Expansion in the Sixties

By Alexander J. Falk as told to Herbert Bratter

« »

Now Computers Can Talk to Each Other!

BUSINESS ADMINISTRATION BOSTON UNIVERSITY



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ARTICLES

FEATURE SECTIONS

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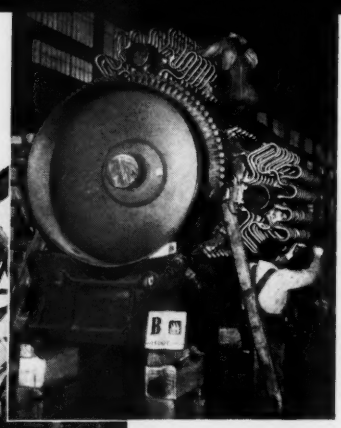
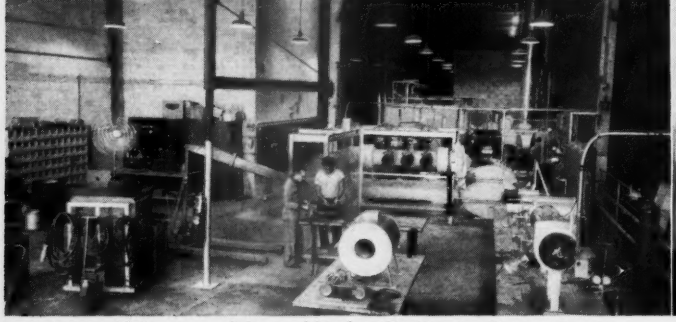


(Left) The huge riverside cr
Combustion's Chattanooga D
easily lifts this 92-ton stainles
reactor vessel — the most co
reactor vessel built to date —
barge for shipment to the
Fermi Power Station, Lagoona
Michigan.
(Right) Stainless steel sodium
exchanger consisting of
tubes within tubes, encased in
sure vessel.

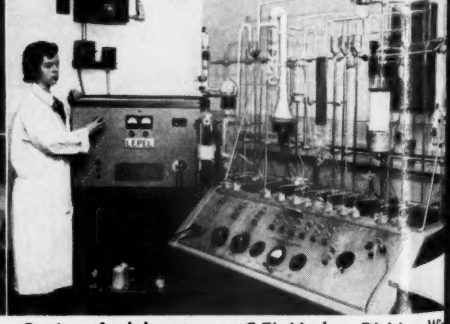
What C-E is doing to advanc

The strange and wondrous world of the atom has been ex
ined and surveyed by C-E scientists and engineers s
1946. The object—to put the controlled energy of the a
to productive use for the generation of power. The re
—a wealth of knowledge and experience in the applica
design and manufacture of nuclear power equipment. Ba
by specially designed laboratories and manufacturing fa
ties, this knowledge and experience—greatly augmented
enriched by the acquisition of the General Nuclear E
neering Corporation early this year—has enabled C-
undertake many kinds of nuclear work.

Notable C-E and General Nuclear projects are outl
on the opposite page. Virtually all of them are *current*,
many have a significant relationship to the vital tas
making nuclear power competitive with conventional po
Collectively, these projects will contribute importantl
the Company's objective of achieving the same posi
of leadership in the atomic world of tomorrow whic
has long since achieved in present-day methods of po
generation.



Partial view of laboratory of General Nuclear Engineering Corporation at Dunedin, Florida, showing equipment used for the study of a high-pressure, high-temperature gas coolant system.



Portion of a laboratory at C-E's Nuclear Division, Wi
Connecticut, showing gas analysis equipment use
detecting the presence of small quantities of gases i
tor materials.

520-foot-long Heavy Vessel Bay at C-E's Chattanooga Division was created especially for the manufacture of heavy nuclear components.

Portion of the 530-acre site occupied by C-E's Nuclear Division at Windsor, Connecticut. This Division is equipped for the development, design and test of reactor systems and the manufacture of reactor cores and core components.

Nuclear Power Progress

C-E NUCLEAR PROJECTS

For Electric Power Stations

- In association with Stone & Webster Engineering Corporation, a design study for AEC of an advanced type of large (236,000 kw) pressurized water reactor power plant.
- A long-term development program for AEC to determine the best means of using nuclear energy to generate superheated steam. (Success in this endeavor will be a big step forward in reducing the cost of nuclear-generated power.)
- Design studies for the Puerto Rico Water Resources Authority, under AEC contract, to determine the best means of adding nuclear superheat to a boiling water reactor.
- Design, research and development work covering a gas-cooled, heavy-water-moderated, pressure-tube type reactor for the East Central Nuclear Group, Inc., and the Florida West Coast Nuclear Group. This development will also lead to a nuclear power plant using superheated steam.
- The development and test of various kinds of fuel elements and fabricating procedures, under contract with the AEC.
- The design and manufacture of reactor vessels, including the largest and most complex vessels of their type built to date, for the Shippingport Station (America's first full-scale atomic power plant), the Enrico Fermi Atomic Power Plant, the Humboldt Bay Nuclear Power Station, and Italy's first nuclear power plant.

For Military Power Plants

- Design study for U. S. Army, under AEC contract, of a truly package type of nuclear reactor, using the boiling water concept, for remote installations. This program includes operation of a prototype boiling water reactor at the National Reactor Testing Station in Arco, Idaho, and the training of military technicians in the operation of the installation.
- The conceptual design and operation of a nuclear test reactor, under AEC contract, to permit full-scale testing of prototype reactor cores for military field plants.

For Naval Power Plants

- The design and manufacture of a submarine reactor system designed to set new standards of accessibility, speed of startup and operational flexibility—and the operation of a land-based prototype installation.
- The design and manufacture of numerous reactor cores, reactor vessels, steam generators and pressurizers for various types of submarines and naval surface ships.

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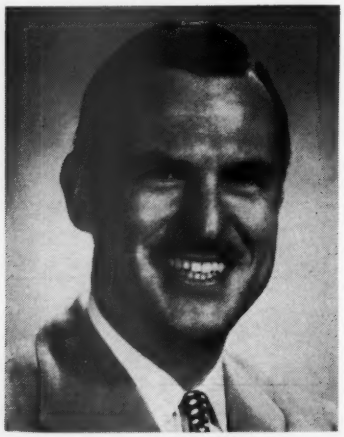
Pages with the Editors

WHEN Governor Rockefeller of New York recently bowed out of the Republican picture for the presidential race of 1960, he mentioned the "massive efforts" he would have to make to contest the nomination for which the Vice President has such a head start. In other words, Governor Rockefeller based his decision on a practical balancing among the time, effort, and money he would have to expend and his chances of success even if he did so. He evidently concluded that the chances of a favorable outcome did not justify the risk.

IN the field of utility company public relations activity, there is little doubt that "massive efforts" would likewise be necessary, if even a substantial minority of utility customers are to be educated to the point of understanding the bare facts of regulation.

WHAT degree of effort, for example, would be needed, and at what expense, to acquaint a majority of customers with the fact that public utilities operate under strictly limited profits and that such profits must be sufficient to insure that adequate capital will be invested in the interest of the consumer's own service requirements? Not only the consumer but the employee,



O. E. ZWANZIG

KIMBALL I. JACK

the investors, and all the other "publics" to which the utility company must make its public relations appeal challenge such "massive efforts."

IT is a fair question, therefore, whether the total job is worth the stakes, or whether some lesser commitment, some half-a-loaf compromise is enough. This is a serious question for utility management to contemplate. Yet, in a period of "automation" when utility opportunities for public contacts are shrinking and the antiutility propaganda is on the increase, can public utilities afford to let a vacuum of ignorance grow regardless of the price of correction?

THERE can be little doubt that the challenge of the overall public relations job—the need for mass communication of a better picture of public utility responsibility—is expanding in size and increasing in difficulty. The attention which public utility management is bestowing on its public relations machinery bears this out. There is more and more evidence that competent and expert public relations planning is desired. But will the public utility industries—all of them—be able to close the gap between what is desired and what is available?

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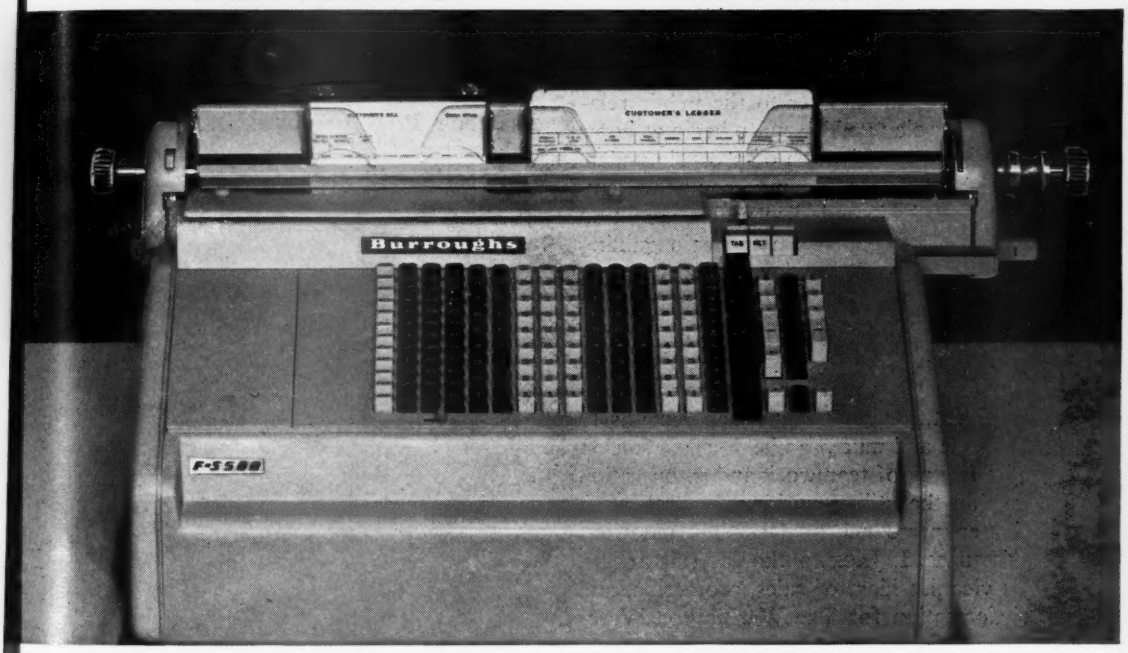

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ALEXANDER J. FALK

LIKE a good many other vexing questions, the answer to the public relations puzzle would seem to begin at home —with the cultivation of properly understood attitudes among company employees. And an indispensable condition to success would seem to lie in gaining and maintaining employee loyalty.

Is there any question of employee loyalty? The opening article in this issue, which urges a new era in personnel management, suggests that much remains to be done and much can be done to develop the feeling of teamwork and co-operation within the utility working force through better personnel management practices. KIMBALL I. JACK, author of this article, is vice president of sales, promotion, and information for The Washington Water Power Company of Spokane. He has been with that organization since 1938 and prior to that he did public relations advertising work for the Utah Power & Light Company.

* * * *

A MARKETING philosophy, according to O. E. ZWANZIG, whose article on this subject begins on page 84, is one which starts with, rather than ends with, the customer. At least, it is argued, such a definition holds true for public utilities in their relationship to their customers. In other words, instead of designing a plant and then expecting to sell its output, the utility company which has embraced a marketing philosophy would first seek to ascertain what the customers want and when and where. The repercussions of such a policy are obvious not only on plant planning and construction but also on pricing and rate structures.

MR. ZWANZIG has been general sales manager of the British Columbia Electric Company, Ltd., for the past three and a half years, during which natural gas was introduced, in addition to electric supply. He is a graduate of the Massachusetts Institute of Technology ('35), who later taught in the department of public utilities of New York University, where he got his PhD degree in economics. He has also served with Public Service Electric & Gas Company (New Jersey) and was the director of the American Gas Association's PAR Program and also in its Bureau of Statistics, during eight years of service with the AGA.

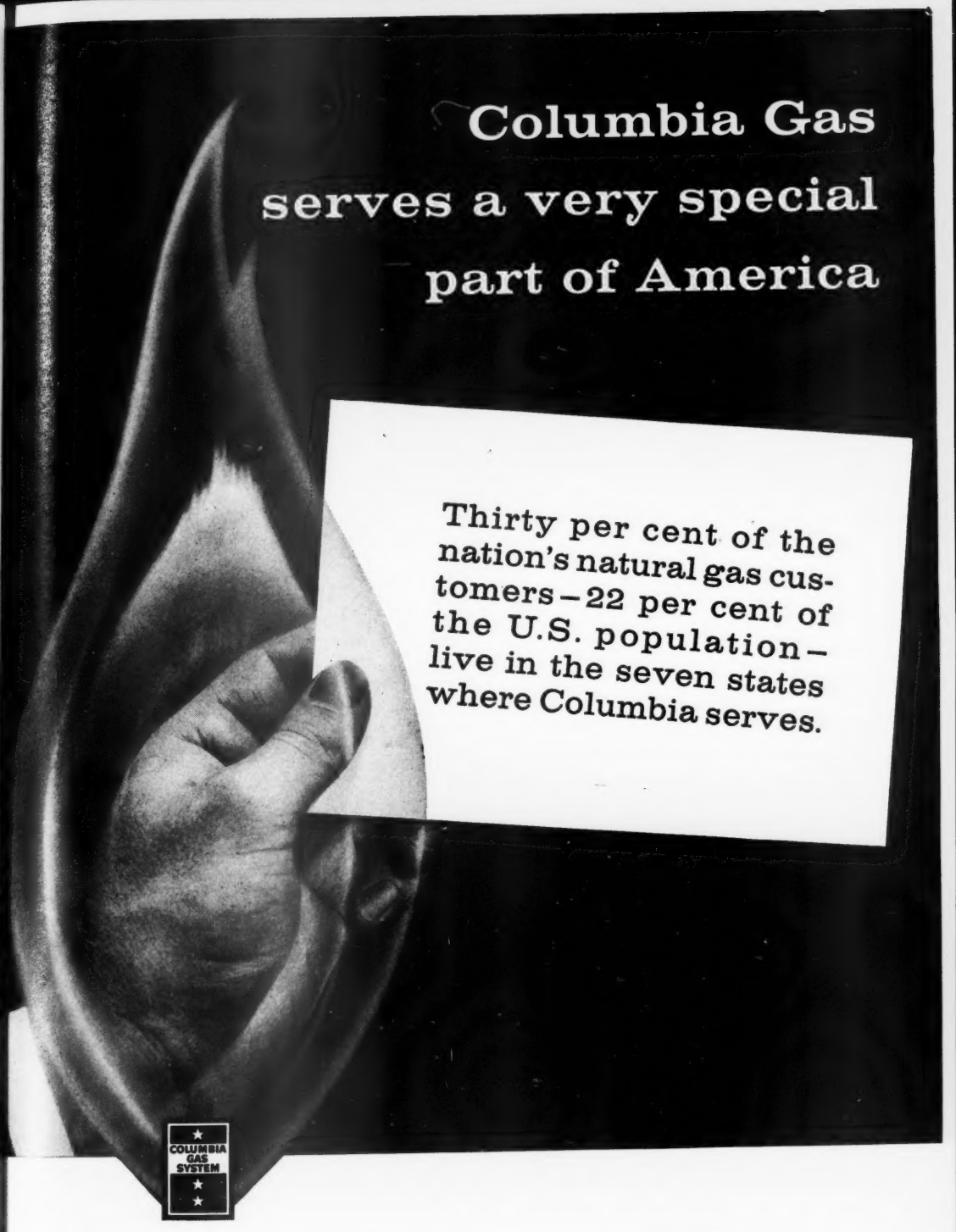
* * * *

ALEXANDER J. FALK, whose interview with Herbert Bratter, professional writer, on the decade outlook for the sixties in the communications business begins on page 92, is director of the communications industries division of the U. S. Department of Commerce, Business and Defense Services Administration. A native of Chicago, who served with a telegraph battalion in France during World War I, MR. FALK was a central office telephone engineer before making government service his career. He was a communications specialist with the old War Production Board in World War II.

JUDGING from the general year-end forecasts by economists of booming times to come during the next decade, we may be calling these years the "Sizzling Sixties," following as they do the "Roaring Forties," and the "Fabulous Fifties." Let us hope all the sizzling will be confined to economic phenomena—not atomic weapons.

THE next number of this magazine will be out February 4th.

The Editors



roughout its service territory—in Ohio, nsylvania, West Virginia, Kentucky, ginia, Maryland and southern New k—natural gas continues to be the *ferred fuel* for home and industry.

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Coming IN THE NEXT ISSUE

(February 4, 1960, issue)

★

CURRENT FACTORS IN GAS PRODUCER RATE CASES

There are a lot of little-known facts which bedevil the true understanding of the problem of regulating natural gas producers. For example, although it is well-known that 200 "big producers" account for three-fourths of gas while 3,000 little producers take care of the balance, it is not generally realized that much of the big producer operation results from "farm outs" to the little fellows. Discussing this and other factors which must be fitted into the Federal Power Commission puzzle of regulating the producer, the Honorable Frederick Stueck, associate member of the FPC, sums up the gigantic job facing the commission as a result of the U. S. Supreme Court decision in the Phillips case in 1954.

POLITICS BEGIN IN A LITTLE RED SCHOOLHOUSE

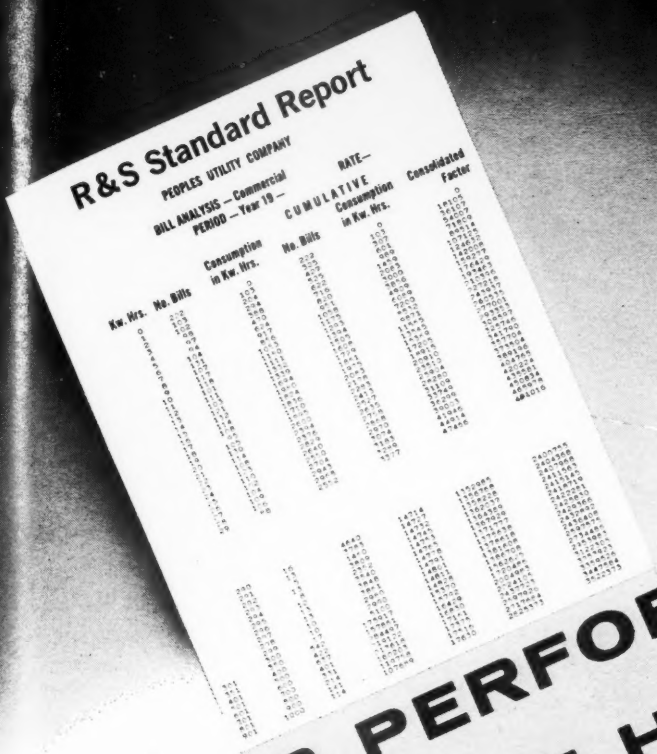
It is often said that businessmen must get into politics in self-defense or politics will get into business and take the offensive. But how do businessmen get into politics, without making such clumsy and naive mistakes as to discredit the whole idea? The labor union people have gotten into politics and have made a good thing of it. The farmers have not done so badly either. What is wrong with the businessman's approach and the celebrated American "know-how" when it comes to joining what should be an all-American game? James H. Collins, free-lance writer, has checked the angles and concludes that politics is not a private fight or a class struggle. Anybody can get into it and the more the merrier. But there are ground rules and taboos which the businessman must learn—perhaps by experience.

SOCIALISM AND CRAB GRASS

Joseph R. Pahle is a resident and businessman in Chattanooga, Tennessee. That makes him both a customer and a competitor to some extent in his relationship with the Tennessee Valley Authority. He thinks TVA is Socialism all right—does not know what else you could call it. But he has a healthy respect for it in view of its accomplishments. He thinks utility businessmen can learn a lot, even about the utility business, from the example of municipal electric plant operations as now being practiced in Chattanooga.

★

Also . . . ***Special financial news, digests, and interpretations of court and commission decisions, general news happenings, reviews, Washington gossip, and other features of interest to public utility regulators, companies, executives, financial experts, employees, investors, and others.***



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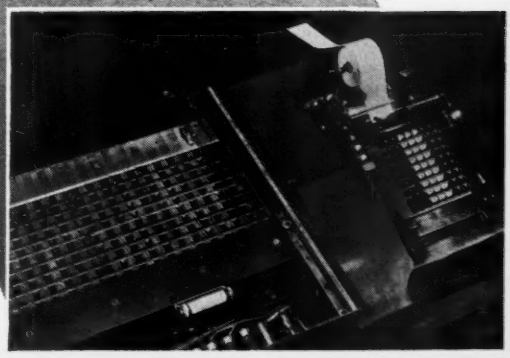

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RAYMOND L. BRUCKBERGER
Dominican priest.

"Nothing serves propaganda so well as martyrs, especially martyrs among the rank and file. Lenin and Stalin died in bed."

MELVIN H. BAKER
Chairman of the board, National Gypsum Company

"The corporate planner must look ahead in time and put his business in a kind of fourth dimension. . . . The timetable may change, but management should have sufficient courage to stay with the pattern of the plan in spite of temporary squalls."

WILLIAM PARK
Chairman of the board, American Stores.

"Occasionally we read of certain people criticizing corporations because they have had a profitable year. They take the attitude that it is almost sinful to make a profit. . . . It is from these profits that money comes for further growth and expansion of the business, providing additional job opportunities. It is also from profits that stockholders receive dividends for the use of their money which they have invested to finance the business."

M. C. PATTERSON
Vice president, Chrysler Corporation.

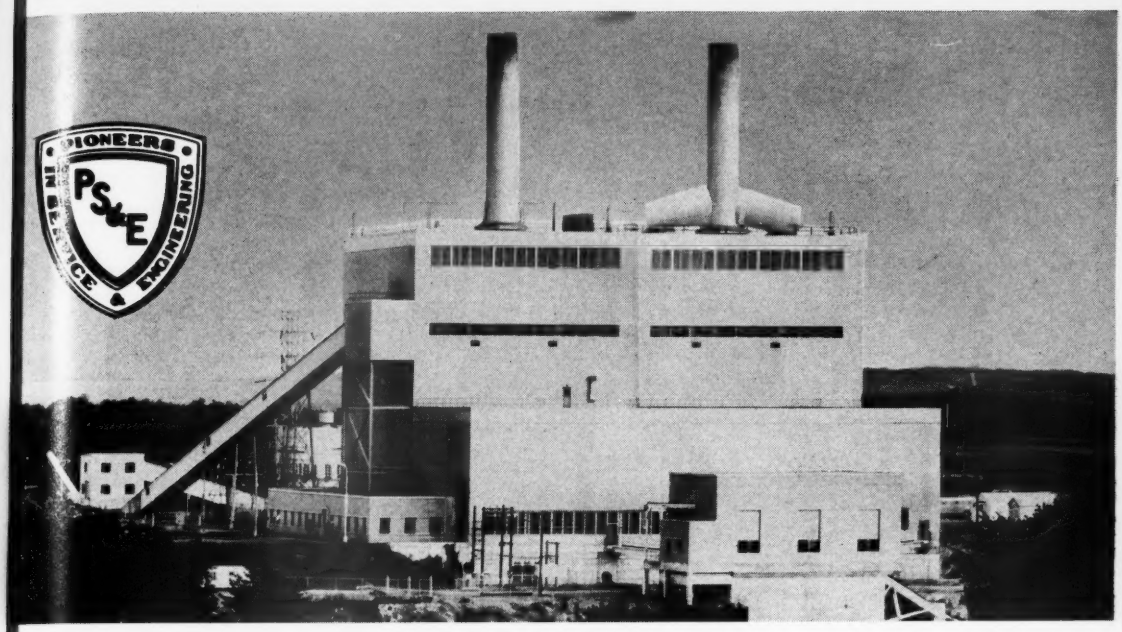
"[Shortage of management talent] may be the most serious bottleneck in the economy [in the next decade]. . . . Business needs large numbers of American youth who are aggressive, who can think, and who have creative imaginations. . . . We are betting free management against the whip. We are betting creative imagination against authoritarianism. It is a bet we must win . . . without turning America into a vast machine served by human machines."

HENRY HAZLITT
Economist.

"Unemployment is caused mainly by wage rates that have become excessive in relation to productivity or demand. The price of labor services is like the price of anything else. If it is too high in relation to demand, part of the supply will go unsold. The cure for a commodity is to reduce the price to the point where the entire supply can be sold. The cure in the case of labor is to reduce wage rates, in the lines where they are unworkable, to the levels where full employment can be resumed."

CALVIN B. HOOVER
Professor of economics, Duke University.

"Neither the development of the corporate organization of the modern economy, together with the countervailing power of labor unions, nor the great increase in the rôle of the state in controlling the economy, nor even the piecemeal nationalization of industries in some countries of Western Europe has yet resulted in a demonstrably serious net diminution of personal liberty so far as this can be separated from business liberty. It seems inevitable, however, that substantially complete statization of the economy would result in a critical diminution of liberty."



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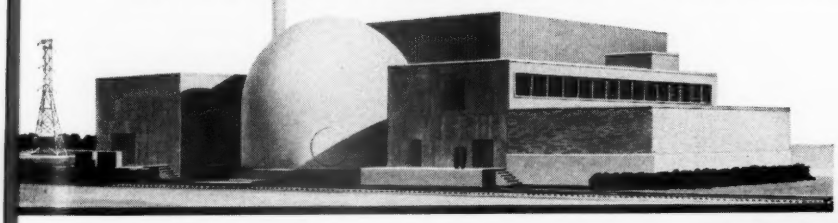

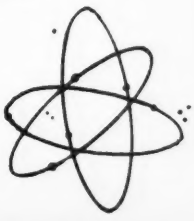

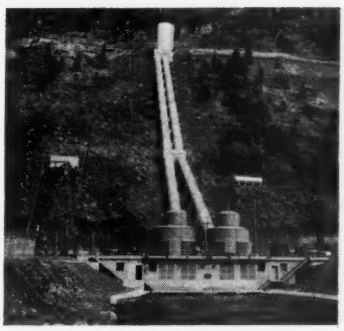

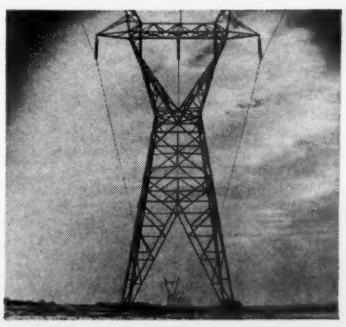

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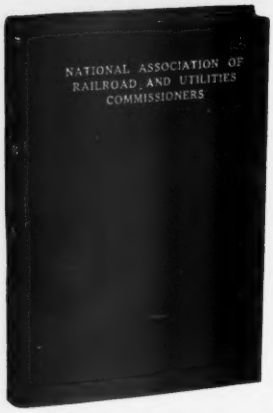

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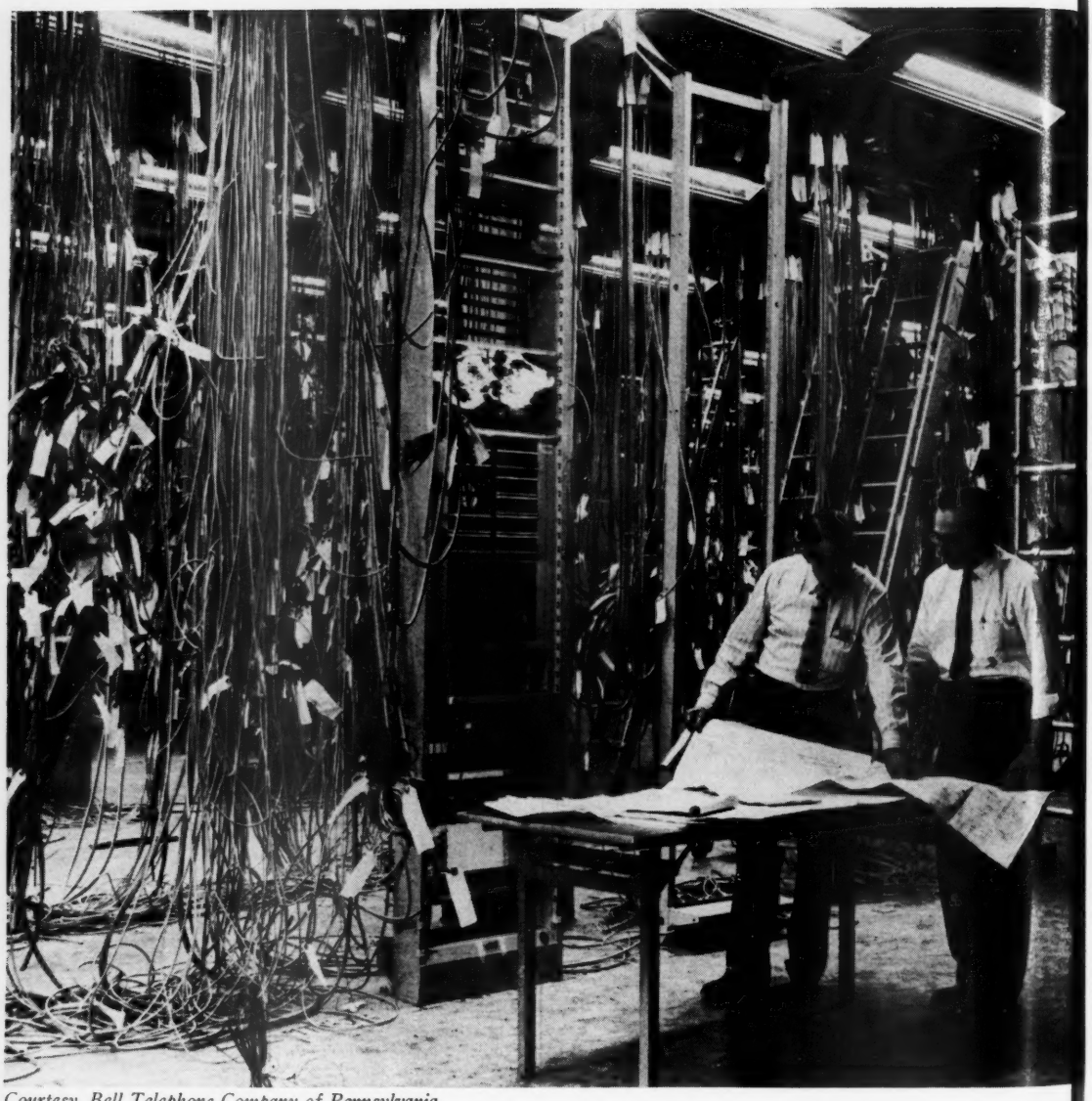
UTILITIES *A·l·m·a·n·a·c·k*

JANUARY - FEBRUARY

Thursday—21 *Edison Electric Institute, Transmission and Distribution Committee, begins meeting, St. Petersburg, Fla.*	**Friday—22** *National Association of Corrosion Engineers begins annual corrosion control short course, Houston, Tex.*	**Saturday—23** *Minnesota Telephone Association will hold annual convention, St. Paul, Minn. Feb. 7-10.* ***Advance notice.***	**Sunday—24** *Missouri Valley Electric Association will hold industrial and commercial sales conference, Kansas City, Mo. Feb. 8, 9.* ***Advance notice.***
Monday—25 *Doble Engineering Conference begins, Boston, Mass.*	**Tuesday—26** *National Rural Electric Co-operative Association will hold annual meeting, St. Louis, Mo. Feb. 22-25.* ***Advance notice.***	**Wednesday—27** *Association of National Advertisers begins advertising research workshop, New York, N. Y.*	**Thursday—28** *Canadian Electrical Association, Eastern Zone, ends four-day meeting, Quebec, Canada.*
Friday—29 *Pennsylvania Electric Association, Structures and Hydraulics and Transmission and Distribution committees, ends two-day meeting, Pittsburgh, Pa.*	**Saturday—30** *Oklahoma Broadcasters Association begins annual meeting, Tulsa, Okla.*	**Sunday—31** *American Institute of Electrical Engineers begins winter general meeting, New York, N. Y.*	**FEBRUARY** **Monday—1** *Instrument Society of America begins instrument-automation conference and exhibit, Houston, Tex.*
Tuesday—2 *National Association of Purchasing Agents, Public Utility Buyers Group, ends two-day midwinter meeting, Atlanta, Ga.*	**Wednesday—3** *American Water Works Association, Indiana Section, begins annual meeting, Indianapolis, Ind.*	**Thursday—4** *American Society of Heating, Refrigerating, and Air Conditioning Engineers ends four-day semiannual meeting, Dallas, Tex.*	**Friday—5** *American Society for Testing Materials ends committee week, Chicago, Ill.*



Courtesy, Bell Telephone Company of Pennsylvania
Photo by Tyler Fogg

Direct Dialing Jungle

Who would believe that it is possible to properly connect this intricate "vine of lines" into perfectly functioning direct dialing circuits? But that is what these Bell Telephone people are doing in this new direct dialing maintenance center in Stroudsburg, Pennsylvania.

Public Utilities
FORTNIGHTLY

VOLUME 65 JANUARY 21, 1960 NUMBER 2

Wanted—A New Era in Personnel Management

Personnel management has ably concerned itself with labor relations and working conditions of employees. But in its efforts it has developed a blind spot. Job descriptions and merit ratings have not panned out to advantage. In fact, they have stultified talents and atrophied ambitions of thousands of promising workers. Neglected has been the simple motivating factor of what makes people "give out" in a job instead of "getting by." Vast resources of productivity lie dormant in that area waiting to be tapped by alert personnel managements.

By KIMBALL I. JACK*
Vice President, The Washington Water Power Company

DESPITE the nation's dazzling living standards, a vast production machine which places within easy reach of 180 million consumers, good food, warm clothing, shiny automobiles, education, and what could almost be called excessive entertainment, some Doubting Thomas invariably peers over the fence to cry, "Something's wrong with business."

This time it is personnel management.

Shocking reports in recent months indicate that employment attitudes in some areas are not sympathetic to our business system.

We are told that loyalties of the worker have faltered; that while striving for higher pay, a majority tend to smaller

*For additional personal note, see "Pages with the Editors."

output without regard for basic economic principles involved.

Admittedly, all is not what we want it to be. Since 1922, there have been some 40,000 strikes against business, with lost man-hours amounting to 200,000 years of productive effort. Two-thirds of the adult population, largely workers, give credit to their union and to government for the prosperity this nation enjoys. Only 16 per cent gives praise to business management. Forty-seven per cent of adults report that they would prefer to work for government, rather than for private business. Apart from security, one reason which received frequent mention was the fact that "we would be helping our country," which implies that with this group, at least, private industry has failed utterly to identify itself with the nation's well-being. Inexcusable millions favor government controls and subsidies. Surges in printed literature tend to persuade workers in every type of employment that private management selfishly exploits the worker, and that profits literally cascade into the hands of the favored few.

REVIEW of employment attitudes invites another consideration. It is the fact that many of the nation's 63 million employees scattered over the business pasture land are not wandering like sheep without a shepherd, but are on the payrolls of substantial firms having organized personnel departments. One-third of the nation today works for the 3,200 firms which employ 1,000 or more people. Even the private utilities' 225,000 employees are exposed to the influence of organized personnel, and have been for years. Therefore, if under guiding hands of well-organized, co-ordinated departments employees lack loyalty and job enthusiasm, the question arises: What have professional policy makers in the field of personnel done or failed to do? How can directors of this important business segment contribute to improved situation in years ahead? Is it practical to alter employment attitudes in order to win back support of the worker? On the other hand, if experts who guide personnel's destiny prefer to maintain status quo, is not the alternative further radical drift toward the welfare state, which in itself may conclusively damage the profit system? These questions merit careful consideration, and it may be fitting to examine the principal concepts personnel has advanced over the past several years.

Still Living in the Past

IN retrospect, it would appear in the field of employment that some professionals have been, and perhaps still are, living in personnel's "middle ages." We have passed through a period of development, a necessary era of growth leading to maturity. Chronologically, the "middle ages" appellative seems especially appropriate. Take vacations with pay, for example.

Vacations with pay were instituted back in 1919 by at least 253 firms. Subsequent practitioners embellished the idea somewhat. Employees today are not only given two weeks' free time with pay, but many now anticipate four weeks. Employees asked for the coat's fringe, and were given both coat and pants. Though perhaps inevitable, rough and steep appears the road ahead leading to additional vacation time, in years to come.

Life insurance was also introduced back in 1919. Medical departments came into

being in 1920 and were placed in charge of a wet nurse called the office manager. Aptitude tests, toyed with by some businesses and pushed aside by others, became practical with military forces back in 1917. The Hours of Service Act was born in 1906, and in 1918 Congress established the eight-hour day for the entire District of Columbia. As to enlightened attitude toward women, that dates back to another Middle Ages when chivalrous men were supposed to protect the weaker sex from realities of life, including the knowledge of sin.

It is evident that little has been added to personnel concepts in the past twenty-five years. Modern practitioners have taken the tree planted by others. This tree has been watered and doused abundantly with fertilizer, which under the grind of evolution is perhaps as it should be.

There's a Blind Spot

ADMINISTRATORS of employment have taken the framework of a house constructed by their forebears. With absorbing interest as to detail, well-lighted restrooms, lunchrooms, and first-aid stations have been arranged and decorated. Great ingenuity has been shown in marking out where employees may pitch horseshoes, drop ideas into the suggestion box, receive severance interviews, and where plant operators may appeal for extra compensation when compelled to live in semi-isolation at the power station. Department rules and regulations numbering close to 200 have been properly catalogued. Master files give at the touch of a finger vital statistics regarding payroll. Along the way, however, some observers are beginning to whisper that personnel leaders failed to ask what kind of people are living in the house, and who will hold the mortgage after most of us are dead and gone.

While occupied with the arithmetic of merit rating, transfer procedures, and retirement studies, etc., personnel may be tempted to forget the true purpose of employment, which is and always has been the will to produce. Major operating anxieties of management in a competitive and often hostile world have sometimes been overlooked. Similarly ignored have been the aspirations of employees. Personnel departments throughout its middle period, despite dependence upon management and its workers, have been geared to operate on the fringe of management's needs, and in the suburbs of greatest employee development.

Achievements? Yes, but . . .

TWO main streams have coursed through the middle ages of personnel, and to these objectives guiding experts apparently dedicated themselves. One was the creation of an orderly, well-organized, well-staffed personnel department. The other was making amends for the bygone neglect and some abuse of labor. Both objectives have been eminently attained.

In most business organizations today the director of personnel sits close to the chief executive, while centralized controls keep tight and orderly rein over all employment procedures. The growling, profane foreman, who, in days gone by, cracked the whip as he hired and fired at will, is now small potatoes in the modern personnel setup.

Nor is it open to argument that the lot of the worker has been vastly improved. Fringe benefits amounting to some several billion dollars annually, or $1,250

New Problems Harass Management

WITH such monumental achievement in organization and labor benefits, the slow-moving wheel of evolution has reached the threshold of expanded personnel concepts. To determine the future of personnel progress, if progress is wanted, it is only reasonable that we turn to areas of stress upon which survival of the firm depends. This is a wilderness area inhabitated by management, and management today faces real major anxieties, which are by no means new. They have followed management through the entire course of private enterprise, and have been defined and discussed over the length and breadth of the nation. One has to do with needed revenues with which to meet interest commitments on borrowed money; payrolls in the electric industry amounting annually to over $1.5 billion; taxes which take another approximate $2 billion, or 23 cents of each revenue dollar; fuel, depreciation, amortization, materials, and supplies which gobble another $3 billion—all a major headache.

per worker in the electric industry, have been bestowed upon employees with no corresponding increased output to compensate for such benefits. Health, education, recreation, safety, good pay, retirement, rest periods, and improved working conditions have made many places of employment more attractive than the employee's home. So great have been personnel efforts to give the worker contentment on the job, that the entire movement has been described as the "happiness approach" to employment. Employees today may not be entirely satisfied, but, on the other hand, most of them are disinclined to quit their jobs. Such programs resemble the use of tranquilizers.

A MAJOR management anxiety today is consumer understanding, the need for customer support regarding business management and the profit system. Both vital needs for over two decades have been muted by some departments of personnel. Ask why the more onerous business problems are neglected, and personnel

leaders may even reply: "Our contribution to business is an indirect thing. We save money by creating harmony and by cutting down labor turnover. Our job is to co-ordinate the interests of both management and labor, not to meddle in departmental operations."

This middle-of-the-road policy has, with mild tolerance, resulted in overstaffed departments, which require occasional executive house cleaning. At times sectional and departmental workers slip in unobtrusively, grow to unexplainable numbers; then at this point, department requests for still additional help may be duly processed. Questions are seldom asked. Coffee breaks amounting to some 225,000 man-hours per 1,000 employees per year have eaten into the eight-hour production period with questionable compensating benefits. Waste through archaic and meaningless prohibitions, ineffective methods of communication between management and the workers, lack of planning the day's work, imperfect pay incentives which eventually force employees against a stone wall, and activities for the sole purpose of enjoyment characterize the middle ages of personnel.

ADMITTEDLY, growing revenue needs may be met in more ways than one. If rigid economies in operation are unpractical, there still remains the positive approach which calls for greater earnings. Yet not often through the era of personnel development have employees been appealed to with dollars-and-cents argument through the department of employment to support the load-building program. Examination of 175 items on the industry's official personnel check list gives not the slightest overall responsibility to employees for company income. "Responsibility for money in the bank is implied," defend personnel experts. But that is not enough. If there exists no clear-cut emphasis to employee understanding of the firm's product, if there is no invitation or incentive regarding prospect-finding written into the requirements of employment, if the pay check does not reflect this interest, then it is doubtful that employees will take the implied responsibility seriously.

It is doubtful if one single job specification across the nation today, or one merit rating list for that matter, specifies definite reliance of the company upon nonsales employees for new revenues. Through an age that fairly bulges with employee benefits from the hands of organized personnel, does anyone in this department have any thought to ask for something in return? Must management's financial problems remain exclusively its own?

Customer Understanding Important

NOW we come to needed customer understanding of political and operational problems, and here again it is doubtful if one job description in the nation, or a merit rating sheet, gives slightest black-and-white reference to employee responsibility. There has been no effort on the part of personnel departments to associate public attitudes with the employee's pay check. Suggested channels of communication between employees and the consumer are ignored. Employees themselves have been indifferently informed. Consequently, only about 9 per cent of the nation's private electric customers say they are acquainted with employees, and it is a safe premise that very few of the

9 per cent have listened to facts about cost of service, taxes, public ownership, and responsible citizenship.

NEARLY 75 per cent of all private utility customers say they have never received an employee visit for any purpose, whether sales, service, or as a neighborly contact. One customer, a college professor, commented: "I have lived in the same house for twenty-five years, and no one from the electric company ever bothered to call. Does the company really care what I think?" For every four customers of a private electric company, at least one has the mistaken opinion that he is served by the government. Ask utility customers what business does most for the community by way of education, safety, crime prevention, city beautification, industrial development, and other community needs, and chances are three to one that some other type of business will receive first mention. Whether the talk is about tax equality, valley authorities, cost of service, atomic power development, local identity, the preference law, power pooling, applied citizenship, or our economic system, only a handful of employees in open discussion is sufficiently informed to give an authoritative "yea" or "nay."

Closely related to employee indifference regarding customer understanding are the deeper attitudes of the employee himself. If employees lack job enthusiasm and moral support, it is wondered what part can be traced to limiting personnel concepts. If an employee on his own initiative will spend hundreds of off-the-job hours struggling with civic programs, creating funds for a jalopy race, working with Boy Scouts, and painting the church basement, it is assumed that he would want to do something extra for his company. The truth stands, he has probably never been asked.

No Incentive to Superior Effort

PSYCHOLOGISTS tell us that less than half of the employees' abilities are ever used. We are told that thousands of Fords, Whitneys, and Edisons have gone to their graves with no opportunity and with no encouragement to contribute something worth while, either to society or to their companies. This is perhaps the worst criticism that has come to a personnel era gone by. The "job description," originally intended as a confidential tool for the wage and salary committee in establishing equal pay for equal work, has been heralded far and wide as a major personnel achievement.

Today, unfortunately, and in spite of the fact that it may even be perverted to give equal pay for unequal work, the job

Study Reveals Lack of Economic Knowledge

ONE study showed that where 88 per cent of employees were informed regarding promotion policy, only 23 per cent could explain the company's relationship with government; 91 per cent understood the insurance policy, but only 39 per cent could defend, however feebly, the profit system; 94 per cent were acquainted with the firm's working hours and holidays, but only 36 per cent had the slightest notion about taxes; only 40 per cent could name community services offered by the company; and only 25 per cent could even vaguely discuss rates.

description is accepted at face value as a virtual contract for minimum employee performance. It discourages anything more than the least possible effort.

For carefully the job description lays out the importance of each worker and his prescribed contribution to company operation. This in itself is impossible, because no matter how simple in theory, the job and worker cannot be separated in practice; but more important, while the output of a machine can be accurately predicted, the mind and spirit back of human achievement are beyond all comprehension. Job routine does not represent the man. Nor is it likely, in spite of $1,250 worth of fringe benefits, that job phrasing will satisfy most men. Nevertheless, employees are labeled clerks, accountants, meter readers, and stenographers. In private confab, total functions of the individual worker are defined, graded, then posted. A typical clerk-typist job narration runs as follows:

> Prepares stencils or ditto masters involving straight copy typing. . . . May operate ditto machine, direct photo copy machine or other duplicating machine to produce copies of reports, records, contracts, or similar matter using standard and existing filing systems. . . . Sorts and distributes incoming mail, addresses envelopes, prepares material for mailing, and performs other minor notices and record forms involving standardized setups and working from printed copy or corrected draft. . . .

James Lincoln has said that every person in the world has the same fundamental desire as to standard of living. That desire is to have his standard higher than others about him, and certainly higher than it was yesterday. "This is the individual drive," says Lincoln, "that has made man what he is. He wants to rise above his fellows."

We Should Tap More Employee Skills

This is perhaps meant to reassure the rest of us that contrary to limitations of the job description, each employee is possessed of several skills, and of an intricate emotional life as well. He has energies beyond what the job calls for, and these energies can be expended either for the company or against it. Each worker could perhaps perform three or four tasks as efficiently as or even better than the one assigned him. Strange as it may sound, employees often propose better solutions to everyday problems than does the department head. Ideas submitted to the Patent Office usually come from the rank and file. One study of 5,000 patentable proposals showed that 90 per cent came from the workers, rather than from men paid to do research. Serious capable employees could unquestionably contribute to routine communications, shipping, mail delivery, the effectiveness of advertising, the average work load, sales, and other matters.

Our employees become Sunday School teachers and civic workers. They operate the family unit, and show occasional wisdom in expending the pay check. They go to libraries, ball games, and to funerals. They work with the Boy Scouts and with the PTA. They laugh, love, dance, spin yarns, putter on the golf course, and sometimes they despise. Always upon

Do Job Descriptions Discourage Effort?

IF at the start a new employee possesses an eager mind, and if there exists a great world for growth, the language of the job description may soon deflate the bubble. If words were bricks and mortar, each new employee might suddenly find himself in a prison cell as gloomy as any found in totalitarian lands. The authority of an impersonal department begins at once to condition him—unintentionally, perhaps, and (should it ever come)—for the welfare state. If the employee's spirit is not broken, if hopes for self-realization are not squashed under the first shovelful, the chances are the responsibility is not that of the personnel department. Too often the new worker becomes a job number to be disciplined.

reaching the frustration boiling point, their thoughts are communicated to others.

WITH these and similar potentials, the penny-ante job listing settles over the employee like a deep fog. Frustrated in the matter of growth, denied full participation in company affairs, it is no wonder that the employee soon enters a perpetual state of conscious or unconscious rebellion. What will he now do with latent ambition and energy? Only a fraction of himself is wanted. With drab, unflattering words devoid of inspiration and promise, the employee is given a shrunken replica of his true self. There is little left for him but to work poorly, indifferently, and often reluctantly. He becomes a clock watcher. It is no wonder that some firms have abandoned dependence upon the job description. They leave explanation of simple routine duties to the immediate supervisor, and thus leave the employee free to become through personnel a full-fledged citizen of the company community.

Merit Rating a Deadening Force

MERIT rating, the handmaiden of job description, also has had the effect of dampening the willingness and resourcefulness of workers. Instituted in

that bygone era for the purpose of stimulating more realistic appraisal of job performance by the supervisor, merit rating has reached the status of a comic-strip fad; classifications, grades, levels, and degrees often run well into hundreds of thousands of symbols in order to classify and tabulate personality which no one fully understands.

The poor correlation of merit rating with actual performance is well-established. For one thing, no two supervisors possess identical understanding of words. To some members of the merit rating team, "co-operation" means blind obedience to authority, when anyone should know that the independent worker often contributes more to company growth than does the sycophant. Miles apart in concepts, two or six men will never see eye to eye. In dozens of experimental instances one supervisor has rated an employee in the 90 per cent perfect class, while another supervisor has rated that same employee nearly zero. The employee has not changed. Something is wrong with the system. Mediocre employee performance satisfies the indolent supervisor and is abhorred by the more exacting. Yet both attitudes are thrown into the same mill for comparison. It is like weighing two sacks of coal with elastic suspenders and an iron bar. The delicate contributions of the artist are pitted against the more practiced job output of the night watchman or the mechanic. Merit rating tackles them all. Job knowledge of home economist and truck driver are both casually calibrated and evaluated.

COME heaven and high water, the merit-rating team will find a way to compare initiative of the man mowing the lawn or shoveling snow with the designing engineer, regardless of how impossible it is for most people to compare a screw driver with apple pie. Always some little juggling is done to please dissatisfied supervisors. If accuracy of the stenographer fails to measure up to the accuracy of the cashier, adjustment can be made to fit the objector's viewpoint.

Always through merit-rating deliberations, however, the volume of work, dependability of the employee, his attitude and initiative, not to mention the occasional inclusion of dress, plays first fiddle over other chief business factors—capital and consumer. For after all is said and done, if employee effort is not related to expectations of the customer and the stockholder, regardless of how reasonable the employee considers them, employee contribution to "opening mail and addressing envelopes, and running the ditto machine" could be futile. To ignore such positive and dynamic points of reference as stockholder and customer demands is simply to peddle both feet on a treadmill. From the employee standpoint, he is functioning in a vacuum, and he senses that he is advanced at the whim of a rating committee.

SURELY ingenious personnel administrators, as time goes on, will find some way to relate the employee's pay scale with current financial fluctuations and to periodic surveys of customer attitudes. Such definite chalk marks of reference would undoubtedly correct the dead-end street of merit rating, eliminate hundreds of thousands of make-believe symbols, and make merit rating dynamic and alive. Until that time comes, this strange bill of goods sold the industry in the middle

Extracurricular Employee Efforts

PLANT operators on their own time have driven night after night, 10 to 60 miles, to assist small communities to raise needed funds. "We think it helps the company," was the simple explanation given. Entire departments, with employees spending their own money for equipment, have turned out on Saturday to improve playground facilities at a children's home. Linemen have created skating ponds and baseball parks for the underprivileged. Plant operators and stenographers have organized youth centers. One lineman sold magazines for charity. Accepting good-natured guffaws from fellow workmen, another lineman reached into the pocket of his working clothes to buy a watermelon which he carried to the edge of town for a needy family. The act brought a heart-warming letter from a fatherless brood to the company president.

ages will continue with percentages and decimal points to assess the mental, physical, and ethical values of employees, as seen through the eyes of supervisors who play a game of Alice in Wonderland.

What Should Personnel Management Do?

BUT what about the new era? The new era of personnel calls for nation-wide broadening of viewpoint. Past development, while commendable, is poised for another step forward. The new era calls for more incentive leadership, clear-cut efforts from directors of employment toward practical management goals. Even more important, the new era must strive to enlist employee support in attaining these goals. What turn the new era may take is anybody's guess. It may be occasional outcropping of job enthusiasm to "help the boss" in some particularly tight place; it may be the rewording of job description in order to suggest broader opportunity and responsibility; maybe it will challenge the employee to find new friends as part of a self-improvement, or compete —department with department—to create special pride in teamwork. It may be nothing more than human warmth.

The fact remains that employees on the business payroll stand desperately in need of encouragement to give more of themselves, their better selves, for the common good. Someone has said that if we can but discover a formula to arouse in all of us real interest in doing the right and proper thing, we would revolutionize the world. There would be no such thing as laziness, indifference, lack of will power, or boredom. Poor attitudes, frustration, lack of understanding, discourtesy, waste, and distrust would largely disappear.

Amazing Results from Motivation

A FEW companies, quite without enthusiasm from the personnel department, have stepped ahead of the parade into the new era. Results from the minority are more than encouraging. Contrary to some fears, union rules regarding seniority and wages have not been disturbed. With homespun resourcefulness, union members often make outstanding contributions that put some of their co-workers to shame.

Cases are at hand wherein meter readers, after hearing about company financial problems, have taken on a heavier work load, combining meter routes and distributing sales and public relations messages at every door. Some have taken on the responsibility of answering high-bill complaints and at the same time giving a prepared sales story. "Never before have we felt ourselves part of the company," they said proudly.

LEAFLETS explaining company problems have been distributed to ministers and school principals. Dozens of employees have undertaken correspondence with their Congressmen. Unpolished speakers, with little to rely upon except deep personal conviction that they should help, have stood before lodge and civic groups to tell what their company stood for. Games have been played to eliminate two-wire services with addition of the electric range.

Scores of ways have been found to help the company.

In no instance did employees expect overtime or material rewards. No one ever complained. Through every decent act, the incentive energy of once indifferent employees was utilized. Opportunities of each day awakened in employees a new feeling of importance. The archaic concepts of limited performance had been overridden in favor of new-found loyalty for the company, a fellowship that goes deeper than routine. Always there came the unfamiliar pride in achievement.

Surely tomorrow's personnel managers who may become dissatisfied with employee lassitude, and who sense the need for improved customer and employee understanding of company problems, will enter the new era with enthusiasm. Once the resolve to act has been made—after distant goals are determined; after the assembly is completed in which employees learn about serious situations facing business; after specifications of employment are broadened to encourage, rather than to discourage; and after the challenge to achieve has been accepted, and returns flock through the door like birds in the spring morning air—it is quite certain that those responsible for personnel will not only look back with deserved satisfaction upon years of development, but they will begin to face a far brighter tomorrow, saying, "From the middle ages of personnel, we have moved to greater things."

"THERE is no convincing evidence that the Soviet leaders have abandoned the principles of international Communism or the objective of a Sovietized, communized world system. It is true, however, that Soviet policy has changed. What has changed is not the purpose motivating the Soviet régime, but the techniques designed to achieve this purpose. . . . We have a chance to convince the Soviet that it cannot risk an all-out war. Obviously this will not bring about a final settlement of the East-West struggle, but it might possibly result in a military truce which could become habitual."

—ERWIN D. CANHAM,
President, Chamber of Commerce of the United States.

A Marketing Philosophy for Public Utilities

By O. E. ZWANZIG*

Before we dismiss the idea of an "integrated marketing concept" as a management way of life for a public utility, let each ask if his company is interested in enhancing the profits of its operation. Endorsing the method is easy; implementing it requires sincere, assiduous effort. Adopting it can pay handsome dividends. Failure to do so may open the door to government ownership.

THE "integrated marketing concept" or "marketing philosophy" recently has received considerable attention —possibly even notoriety—at conventions, workshops, discussion groups, seminars of such organizations as the American Management Association and the American Marketing Association. It has been described and discussed in such journals as the *Harvard Business Review, Marketing, Industrial Marketing, Business Week,* and *Printers Ink.* It has been adopted as an entrepreneurial way of life by many firms, particularly—but by no means exclusively—among consumers goods industries. While certainly not new, the philosophy received increased and renewed recognition during the 1957-58 recession when many firms, for the first time in several years, had to appraise critically their operations in the light of their customers' needs and wants.

Among utility companies generally, the "marketing philosophy" is as yet inadequately understood, let alone being adopted as the cardinal guide to shaping management policies. Possibly symptomatic, there are few marketing vice presidents among utility companies; equally scarce are the men—regardless of title—who fulfill the rôle of marketing co-ordinator in such companies. This failure can be understood in a rapidly growing industry whose concern has more frequently in recent years been to keep capacity up to demand, rather than the reverse. When, in addition, these industries are characterized by a slow rate of capital turnover, one can understand even better why the construction of the physical facilities and the raising of funds for such construction have taken precedence over a marketing philosophy. Understanding is one thing; justify-

*General sales manager, British Columbia Electric Company, Ltd. For additional personal note, see "Pages with the Editors."

ing such an attitude is more difficult, particularly for the privately owned public utility industries providing so many basic consumer services.

IT would be erroneous to conclude that the contrast in this respect is one of pure black and white as between utility and nonutility enterprises. As a recent article in *Business Week* points out:

> Yet, it isn't at all clear that management in general has given to these phrases anything more than lip service. One reason may be the hard fact that the concept of total marketing—or whatever you call the dynamic process of fashioning products out of raw material, packaging them, pricing them, shipping them, and selling them—forces most companies to alter substantially their traditional ways of thinking and doing business. This isn't easy, because organizations are naturally conservative. It's much easier to talk about total marketing than to achieve it.[1]

The degree of understanding and acceptance of the concept is however strongly in favor of the nonutility businesses.

Let there be no confusion: The marketing concept is *not* synonymous with the classic sales concept. Unfortunately there is not yet a single accepted definition of the marketing concept. What distinguishes marketing from such activities as sales management, advertising, market research, customer service, pricing, is its integrative characteristics. That and—as many writers have pointed out—*a state of mind oriented to the requirements of the market place* among all management and employee echelons.

IT is true that there may be other integrative forces within an organization—the dynamism of its top management, for example. The uniqueness of the marketing philosophy, however, is that its co-ordinating incentive derives not so much from particular circumstances within the organization as from this realization of the primacy of customers' wants or desires. These essentials are apparent in each of the following expositions:

> Marketing is a way of managing a business so that each critical business decision (those critical decisions made by engineering people, by manufacturing people, by financial people, and so forth) is made with a full and prior knowledge of the impact of that decision on the consumer.[2]

* * * *

> A corporate state of mind that insists on the integration and co-ordination of all of the marketing functions which, in turn, are melded with all other corporate functions, for the basic objective of producing maximum long-range corporate profits.[3]

* * * *

> Marketing is not a specialized activity. It encompasses the entire business—it is the whole business seen from the point of view of its final result; that is from the customer's point of view. Concern and responsibility for marketing

[1] "The Marketing Pattern," *Business Week*, March 14, 1959, p. 139.

[2] "A Basic Guide to Marketing for the Smaller Company," by Charles E. St. Thomas, *Industrial Marketing*, reprinted in *I M Encyclopedia of Marketing* series, Chicago, 1959, p. 4.

[3] "Making the Marketing Concept Work," by Arthur P. Felton, *Harvard Business Review*, July-August, 1959, p. 55.

must therefore permeate all areas of enterprise.[4]

* * * *

We use the term *marketing* . . . to mean a state of mind . . . an attitude that colors the way we think and approach the daily problems of business, of decision making, of determination of policies. It means we endeavor to think about our problems, actions, and decisions in terms of their overall effect, rather than in terms of limitations of a single department or function. . . .[5]

ONE may well say that under the atomistic approach the various functions—engineering operations, customer service, financial, sales, pricing, advertising, public relations—are prone to be highly compartmentalized or fractured. The customer exists for the business. And here is the fundamental difference under the marketing approach: The business exists for the customer. This must become increasingly so even in the relatively sheltered environment of utilities. Failure to recognize and act upon this may be the shortest route to corporate oblivion or conversion to public ownership. Why is this so?

1. Gas and electric utility companies, particularly with the split up of a number of previous combination companies, are experiencing enhanced interfuel or interenergy source competition. This is significant even though there may be no intraenergy competition in a given market area.

2. Additionally, utility companies—or more specifically appliances using utility services—are encountering daily competition for the consumers' disposable income. The down payment on a new automobile will postpone the time when a new clothes dryer will be purchased. More and more—utilities can no longer relax in the assurance that new appliances will eventually be purchased. Anticipating *what* and expediting *when* consumers will purchase is becoming increasingly important.

3. Orientation to consumers' wants and acclimating company practices to consumers' desires can become the strongest bulwarks to assure continued operation of privately owned utilities. One of the key assets of a successful politician is this prescience and knack to understand his constituents' interests and point of view; utility company operations could profitably be similarly oriented.

WHAT does acceptance of this marketing philosophy as a corporate way of life mean for the company? By orienting its every action—its every thought—to the primacy of consumers' wants, it will enhance its profitability.

Looking externally to the market place, the firm which most successfully meets the wants and desires of its customers will inevitably increase the profit level of its sales. Enhanced profitability—as contrasted with fetish for sales volume—becomes not only the primary objective but also the consequence of believing in and practicing the marketing philosophy. Instead of starting with the desired "earnings per share" and working up through

[4] "The Practice of Management," by Peter Drucker.

[5] John McLaughlin (director, advertising and sales, Kraft Food Co.), *Printers Ink*, November 23, 1956, p. 61.

various categories of expenses to required revenues, under the marketing concept the sequence is reversed.

Looking internally within the company, adherence to the marketing concept will have equally salutary effects on profitability. The co-ordinating and integrating effect of focusing on the wants of the market place will lead to elimination of departmental cul-de-sacs, lessen interdepartmental inconsistencies of objectives and rivalries, and enhance establishment of particular areas of responsibility and authority.

ONE would be naïve to assume that this Utopia will be realized immediately. But certainly the situations will be reduced where the sales manager is fretting at the restraint imposed in selling electric heating while the rate engineer sits in his own cubicle and claims this is unprofitable business. How often have we witnessed rate changes promulgated by the rate department without consultation with the sales department? Co-ordination might well have led to a schedule better suited to the competitive market situation and hence to an improved earnings position. A perusal of the AGA rate service or EEI rate book must lead to the conclusion that certainly these labyrinths of complicated, often confusing and hard to understand rate forms, availability clauses, etc., are capable of

The Customer Is Always "King"

EVERY function, every operation now **starts** with the customer rather than **ends** with the customer. Instead of designing a plant and then expecting sales to sell its output, the utility which adopts and lives the marketing philosophy will first ascertain as specifically as possible **what** its customers want and desire and **when.** It may of course quite properly want to affect the nature and intensity of such wants. Such a utility will also study its internal practices—many of them hoary and obsolete upon investigation—to attune them to the customers' convenience rather than that of the employees. Pricing or rate forms may be found to be confusing, unduly complicated to understand, vexatious; investigation may reveal immediate or longer-range opportunities to attune them to consumers' wants.

considerable simplification—at least over a period of time—with no serious adverse effects on company earnings. Often these availability clauses, bases for assessing demands, etc., become so confusing that utility employees themselves cannot decide whether a customer is entitled to the residential rate or commercial rate; whether a poultry-raising operation is a farm service or a commercial service. Not only is this silly and vexatious to the customer, but it consumes man-hours of company personnel which could be put to productive use.

Many readers will recall the revolution in the insurance business when Allstate Insurance Company eliminated the professional "fine print" in its policy forms and wrote the terms in plain everyday English, complete with pictures, so that the policyholder could easily understand exactly what coverage he was getting. Can't we in the utility business take a lesson from this? Certainly we are not afraid to let our customers know how their monthly charges are computed.

THEN, too, we encounter all too frequently the "fractured" organization where the sales department, entrusted with responsibility to achieve the revenue budget, develops plans for a clothes dryer promotion while the advertising department develops a concurrent plan for an unrelated home-made doll contest, complete with a 25-word jingle. Fantastic? Not at all! Or the company which sponsors a television program which the president's wife likes, while all the customers are watching the televised ball game.

Then there is the situation where a gas company has an excellent free appliance adjustment service, but it is afraid—even experimentally—to tell its customers about it, forgetting that such a policy is one of its most valuable sales allies. Another not uncommon development arises when the sales department, being hard pressed by competition, asks for ever greater promotional moneys while simultaneously appliance adjustment facilities are being curtailed. Or even more absurd—but unfortunately found in practice—the sales department does not even know what adjustment services the distribution department will or will not provide! Occasionally one finds situations where load projections are still the sole prerogative of the engineering or operating department. When a company is confronted with the necessity of applying for upward rate adjustments, how often does it present its case in terms of *its needs,* rather than in terms of *assuring customers continuing adequate service?*

INNUMERABLE other examples could be cited. The reader, likewise, can undoubtedly add to the list from his own experience. Admittedly, utilities are regulated with resultant varying degrees of rigidities imposed upon managerial prerogatives. However, it is sheer rationalization to claim that absurdities such as those cited—and many others like them—are beyond managerial control.

Structurally, how might a gas or electric utility adapt its organization to practice most readily the marketing concept? There are various solutions, depending on such factors as company size and available human and physical resources. Whatever the specific organizational pattern may be, it must take cognizance of the four essential aspects of the marketing functions:

Suppose We Had a Competitor

A BELIEF and faith in the marketing philosophy, followed by its acceptance and adoption throughout the organization, can achieve improvement. Every company policy, every employee action must be assessed by the criterion: "How does this look to the customer"; or "If we had a competing utility company in our territory, would this policy lead the customer to transfer his business or would he remain loyal to us?"

1. Ascertaining and anticipating customer wants.
2. Conditioning and directing customer wants.
3. Realizing on sales potentials.
4. Retaining customer satisfaction.

MARKET research and pricing policies would typically encompass the first of these functions—ascertaining and anticipating customer wants, and then developing a suitably consistent policy. The term "pricing" is used intentionally, rather than the more typical "rate making" or "rate engineering," to emphasize once again our orientation toward customer wants in place of company convenience. Within the company's overall revenue requirements, there are many variants of rate forms, number, length, and level of rate blocks. What is contemplated here is that through the integrative effect of the marketing philosophy, rate schedules will be fewer, simpler, and more adequately attuned to consumer preferences. Such rates will automatically be better adapted to the competitive conditions of the market.

Co-ordinated sales promotion and advertising will satisfy the second functional aspect of the marketing program, conditioning and directing consumer wants. Our present and potential customers may have dormant wants and desires, whose realization would lead to greater utilization of utility services. In the competitive struggle for consumers' disposable income, it is proper and in the public interest to encourage and expedite such increased usage, as long as we ourselves know that our services can contribute to the public's comfort and sense of well-being. It is no longer adequate to build the better mousetrap. We must first know that a need for better mousetraps still exists, and then we must let it be known that they are available, what they will do for the customer, and how easy it is to obtain them.

CARRYING the mousetrap analogy one step further brings us to the third phase of a marketing program, realizing on sales potentials. This rôle is performed by the direct sales department. Sales operations are now recognized to be only one —albeit a very important—part of the integrated marketing function. Included would be all of the usual field sales operations—residential, dealer relations, commercial, industrial, appliance merchandising.

Similarly, whatever work a utility company may be doing in the field of industrial or area development would conceptually fit within this category of realizing the sales potential of the market.

Particularly in providing a continuing service—month after month, year after year—as is the case for most public utili-

ties, it is not sufficient to make the initial sale.

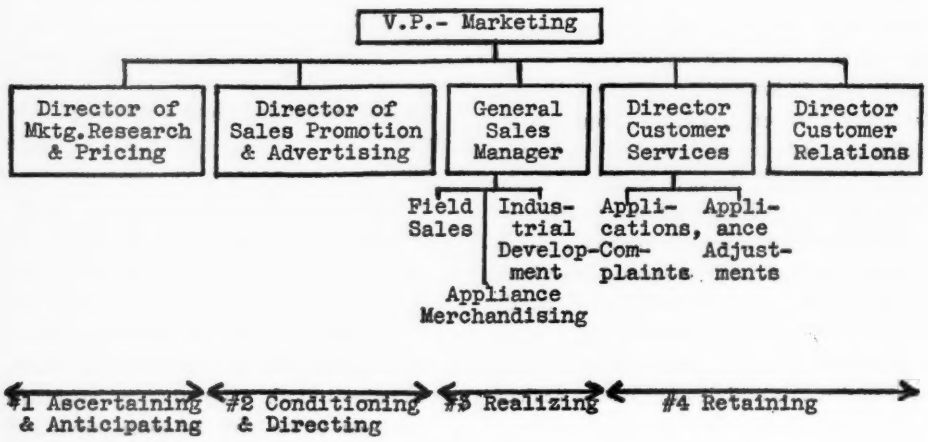
We must retain, and, if possible, enhance customer satisfaction with our service.

Also—*and this is most significant*—customers for many utility services, particularly gas and electric, are interested not only in the adequacy or price of the service itself, but, even more importantly, in the proper functioning of appliances and equipment utilizing those services. The best gas furnace, poorly installed or adjusted, will lead to customer dissatisfaction.

It is quite easy to say that such adjustment is the installer's or customer's responsibility—and so it may well be theoretically. Realistically, however, the blame is more frequently assessed against the fuel.

THUS we come to the final organizational aspect of the complete marketing concept, retaining customer satisfaction. Effort spent on keeping existing customers satisfied is as much a part of the marketing program as that spent to obtain new customers. There is no truer adage than, "Your most valuable asset is a satisfied customer," and vice versa. Hence it is important that such operations as (1) customer services—service applications, bill complaints, service complaints; (2) appliance adjustments—in fact all responsibility for customer satisfaction with physical use of services beyond the meter; and (3) some aspects of public relations be recognized as essential parts of retaining customer satisfaction. It may be debatable as to how much of public relations work, such as press relations, franchise, and other governmental negotiations, properly falls within the orbit of the marketing function. There can be little question about the immediate customer aspects.

Recognition of the marketing philosophy as outlined here might reflect itself in the organization chart shown below for a gas or electric utility.



- **Find out what your customer wants. Adapt your rates to the competitive conditions of your market.**
- **Bull's-eye your selling efforts by co-ordinating sales promotion with advertising.**
- **Analyze your direct sales operation to ascertain whether you are realizing the maximum potentials of your market.**
- **Work hard at retaining your most valuable asset—customer satisfaction.**

Whether industrial development should report directly to the marketing vice president, or whether customer applications should be separated from appliance adjustments are details capable of individual resolution.

A FEW years ago, 10 gas companies in different parts of the United States undertook a "test city" program, in which each utility agreed to experiment with new or accentuated operational and sales techniques in part of its service area. To varying degrees, this was also a microscopic experiment in accepting the marketing philosophy. For the first time, many of these companies undertook a market survey and then attempted to redirect their practices to the findings of these surveys. For the first time, too, in some cases, the operating people were really given the opportunity to understand their contribution to making and keeping satisfied customers.

When a firm like the Western Pacific Railroad—itself a member of a staid and tradition-bound industry—adopts the marketing philosophy as a corporate way of life, then certainly the time has come for similar action by other privately owned, business-managed utility companies. The term "business-managed" cries for such action! The insidious simplicity and obviousness of this thesis may incline some readers to dismiss it with the reaction, "This is nothing new; we are doing this now." Indeed, it is not particularly new, but most of us are *not* doing it now. At the post-mortems of a recent meeting where the speaker of the evening discussed the topic of "The Marketing Philosophy as a Way of Management," those in attendance from the teaching fraternity were inclined to scoff at the talk as merely plagiarizing Lesson One of Marketing #1. And so it may well be, but as the rejoinders from the industry members at the meeting pointed out: There is often a deep chasm between believing and practicing.

An organizational structure as outlined here will facilitate the acceptance of the marketing philosophy within a utility company, but it will not automatically assure its success. No better concluding paragraph for this article can be found than that of Arthur Felton's article: "But, first and foremost, a company must possess the proper corporate state of mind in regard to integrated marketing thought, or all attempts to solve such problems become academic."[6]

[6] Arthur P. Felton, *op. cit.*, p. 65.

Outlook for Telephone Expansion *in the Sixties*

ALEXANDER J. FALK*
as told to HERBERT BRATTER

The telephone industry faces an exciting decade of unprecedented growth in the sixties. This will stem from more people, more families, more consumer spending, and new and wider applications of communication innovations in the residential and business fields. The rate of expansion will be affected considerably by policies embraced by regulatory commissions.

Q. MR. FALK, from where you sit what are the prospects of the communications industry, particularly the telephone industry in the coming decade?

A. Given suitable regulatory and other environmental conditions, the outlook for this industry during the next ten years is exciting.

Q. Could you explain, Mr. Falk, just what you mean by suitable environmental conditions?

A. By these I mean that in order to attract the large capital outlay required each year for expansion of services that earnings fair to the company's investors seem obvious and apparent. Also, the companies must have freedom to exercise their initiative and be permitted to promote the development of their services in the environment of governmental understanding and encouragement.

Q. WELL, let us assume that we are going to have peace, that the Summit talks are going to succeed, and that we are going to have a suitable governmental attitude in the matter of regulation. Will you please name the principal factors which, in your opinion, will make for growth in this industry in the next decade?

A. I would say that among these factors will be: population growth, more rapid growth in the number of families, a rising standard of living, decentralization of industry and people into rural and suburban areas, technological developments resulting from past and future research, vastly increased use of telephone equipment for the transmission of business and government data, faster pace or tempo of business, new services and service improvements.

*Director, communications industries division, Business and Defense Services Administration, U. S. Department of Commerce. For additional personal note, see "Pages with the Editors."

Q. WELL, Mr. Falk, shall we take up the first factor you have mentioned, population?

A. Estimating population growth is difficult because many imponderables are involved. The best determination that we have been able to make is that the increase should be 35 to 40 million by 1970. More important than the growth in numbers is the shifting age mix. Changes in the age structure of the magnitude in prospect for this decade rarely occur in history.

Over the past ten years, the increase in number of children and the elderly has accounted for the largest show of the gain in population. In the next few years, the growth will be centered in the age levels where the per capita consumption is highest.

The enormous crop of postwar babies will be reaching an age so that by 1965 we will have a new marriage-baby-housing cycle that should dwarf anything we have seen before. This new family boom should lift building and telephone development to a new level in the second half of the decade. In fact, it appears that housing starts which are currently averaging 1.35 million will in the latter half of this decade run from 1.7 to 2 million.

Now, what effect will this have upon telephone growth? Take a look at the chart prepared by our division, "U. S. Telephone Development" (page 95). The chart shows that when we enter the explosive sixties, we have a population of 179,255,000 with almost 71 million telephones or an average 39.7 telephones per one hundred of population and that by 1970 the population will reach 214 million. It is expected that the total United States telephones will number 121 million, or an average of 56.6 telephones per one hundred population, compared with today's 39.7 telephones.

Q. Growth in number of families; what is the significance of that?

A. In 1900 there were approximately 15.9 million households in the United States, but entering the explosive sixties it is estimated that this figure is 52.4 million and that by 1970 there will be 62.9 million households. The increase in the number of households and population growth is startling, but the important factor for our industry is that while population has increased almost three times since 1900 the number of households has increased by four. This trend should continue as people are marrying younger and new housing starts will increase together with the coming new crop of "war babies" of World War II reaching marital age.

Q. THE third factor you mentioned was the rising standard of living. How is this related to the population and family growth and to the telephone industry?

A. Obviously, there is a connection between the population and the number of families and the number of telephones. The more families there are the greater is the need for individual telephones. Each new family will aspire to have its own home. All this is pretty obvious. In addition, our standard of living in the United States has been rising and is expected to continue to rise quite perceptively during the next decade. Part of the standard of living is having adequate telephone service. This means that in many homes there will be not only one telephone instrument but extensions. Thus the standard of living will give added impetus to the growth of the telephone industry in the 1960's.

You might say that population times standard of living equals more telephones and more use of telephones. In 1947 the average family income after taxes using 1958 dollars was $4,700. In 1958 this had advanced to $5,610 and it is unofficially estimated that by 1970 the average income will be $6,800, again in 1958 dollars.

Q. You mentioned also technological developments. Would you spell out your thoughts on this?

A. A sustained program for research and development and expenditures by the industry having the objective of improving service, decreasing cost, and providing new types of service will become a reality in the next decade. Technological changes in the communications industry may be divided into two parts, those visible to the ultimate user and those not visible to him. Let us take first those which the users see. The telephone instrument as we know it today will commence to look quite different late in the coming decade. New telephone instruments are beginning to make their appearance and there are many different types of models now being tried out to get customer reaction.

As the 1960's progress the telephone instrument which the average user sees will undergo some important changes. Instead of the dial which is now part of the base of the phone there will be set into the hand piece a dial or equivalent mechanism working by push button. Thus when your phone rings you will pick up the hand piece containing the ear piece, mouthpiece, and mechanism for making calls.

TODAY phone booths are being crowded out of drugstores and restaurants and glass-enclosed phone booths are becoming commonplace on our highways and public streets.

In many cases the customer has to use a wall phone without any privacy. We are going to see much more of drive-up and walk-in pay stations out in the open in this country.

There will be automatic dialers within the next few years which will require only the push of a button to ring a prerecorded number. It will be possible to have as many as 50 frequently called numbers on this automatically dialed setup. This device will have use in the home as well as in business.

Q. And what about the invisible technological improvements?

A. Today, Washington residents sometimes see through the window of a government limousine a telephone instrument which is installed in the car. Cabinet officers and industry officials are in this way able to keep in communication with their

Coming, Hands-free Telephone

THE hands-free telephone will be commonplace for the busy executive's desk within the next few years. This telephone will sit on the executive's desk and receive and transmit the voice without the use of a handset and to answer it will only be necessary to press a button. There also will be a market for use of this instrument in the kitchen where the housewife will be able to answer an incoming call without stopping her busy kitchen activities. As an added feature this type of phone will be available with a handset when privacy is desired.

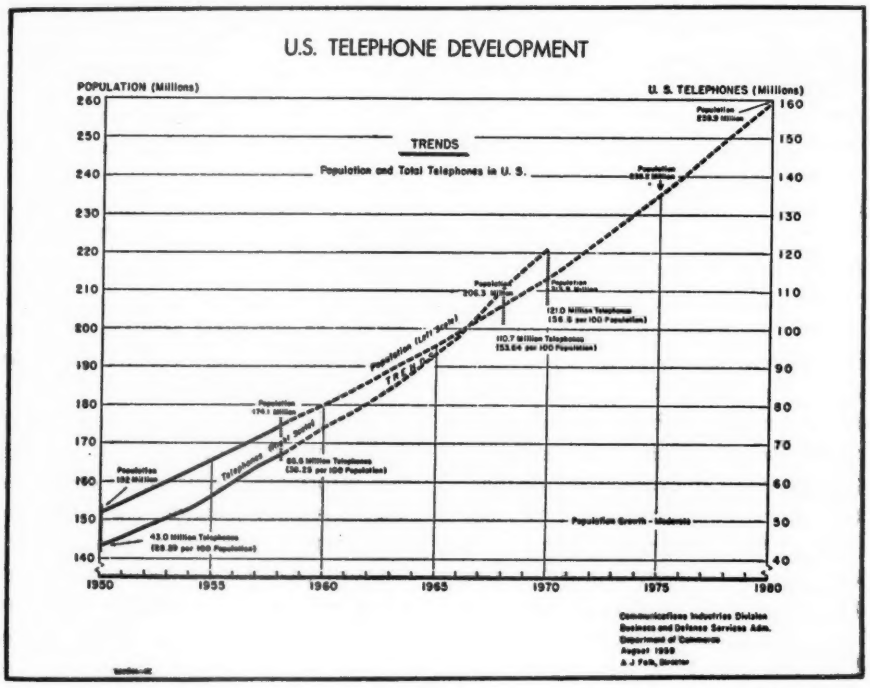
offices which are in and near the District of Columbia.

At the present time about 17,000 motor vehicles and boats are equipped with general mobile service. This means that people can call any land base telephone in the United States from their car or boat and likewise may receive messages from land base telephones.

ANOTHER development of public mobile telephone service is that known as air-to-ground service. This service has been used experimentally in the Detroit and Chicago areas and some half-dozen commercial planes are equipped with it. This service permits passengers to call any telephone in the country when their plane is within range of the mobile radio station. Thirty or 40 private planes are also already enjoying this service. Recently the FCC granted a developmental license for the extension of this air-to-ground service to the New York, Pittsburgh, and Washington, D. C., areas.

Within the next decade full development of public mobile service will depend on the allocation of a broad band of frequencies in the neighborhood of 75 megacycles, which will permit dialing to cars and a much improved mobile service. With the proper frequency allocation it is estimated that in five to ten years a total of 30,000 mobile units may be served in each metropolitan area. This means hundreds of thousands of cars and boats having access to the communication system of the nation within the next ten years.

WE can expect to find in general use intercommunications systems among the various rooms of the home or business



THE invention of the transistor by the Bell Telephone Laboratories heralded a revolution in electronics. Wide application in the next decade will bring about miniaturization of assemblies and components and this technological advance will see one of the outstanding developments which will be tried out this year at Morris, Illinois, and London, England, next year. These will be electronic switching offices and will resemble a big computer with numerous diodes and transistors, occupying only half as much space as the present conventional switching office. This new system will be capable of doing many more things fantastically fast.

premises. This means that it will be possible to talk from one room to another without holding an instrument. It will also be possible to talk to someone who may be at the front or rear door without going to the door. This system will also make it possible for the mother, who may be on the porch, to hear the cry of her baby in the nursery.

Q. WHAT about new uses of the telephone by business and government? Are there any changes in sight in this respect?

A. In the next ten years we are going to see very greatly increased use of the telephone for the transmission of business and government data. New demand horizons will open in the next decade for data transmission as another service available to business. The whole general economy will be organized on the extensive flow and use of data. Also, information such as related to ordering, shipping, scheduling, accounting, inventory control, and personnel administration will be transmitted over telephone and telegraph channels as the economy gears to an ever-expanding market and the new, modern concept of speed and service. Computer machines that can calculate, choose between different courses of action, learn, remember, and reason will play an important part and will be used at data-processing centers and the bits of information will be transmitted over telephone or telegraph circuits.

Further, in this regard the dual use of the telephone or "data phones" is rapidly coming of age. These new instruments will become available during the next few years and will make it possible to telephone to a data-processing point the information that data are going to be transmitted, and, immediately afterwards, data from machines will be "piped" into and transmitted through the "data phone" instrument for transmission over regular telephone circuits.

Q. YOU spoke of a faster pace or tempo of business. How does the communications industry fit in with this?

A. As an expansion of this idea, modern business practices today are looking for a speed-up in operations, especially in the area of providing more efficient and faster service to customers between their plants, offices, and suppliers. As an illustration, in meeting this requirement in the next decade data information from a field agent to his company's central processing center for information concerning credit standing, inventory location, etc., will revolve around the telephone company's ability to furnish channels of communications for the transmission of bits of information.

Routine operation of many businesses today involves a torrential and continuing

flow of data in the form of orders, claims, instructions, confirmations, inventory reports, requisitions, and the like. Such data are recorded now on paper so that the movement and accumulation of paper on the part of many businesses are costly unless carefully organized. Data handling of bits of information will provide speed and accuracy in the filling of orders. Telephone companies are gearing their services to meet this challenge of speed.

Another interesting development that is taking form is the automatic and alternate routing of toll calls by fast machine switching equipment. The equipment determines the destination of the call and speedily locates an available communications channel. I cite this as an example of the telephone companies' objective of handling toll calls expeditiously.

Q. To what do you refer when you speak of new services and service improvements?

A. A new service requiring facilities for (closed circuit) theater, television, and for medical, educational, and industrial use can be expected. Direct distance dialing from any telephone to any other telephone subscriber in the United States and most of the world will be realized.

The whole field of communications service will be broadened. No one can foretell the vast potential and effect of space communications by radio. In this decade we shall have communications so that all parts of the earth will be tied together. Platforms in outer space may be used to relay telephone calls around the world together with voiceways under the oceans, in the air, and over mountains.

Later in this decade we should see some practical applications for the solar battery. As an example, trials are being conducted to ascertain their practicality as a source of energy for rural farmer lines. Also, it should be mentioned that a solar battery cell was used for the Vanguard I satellite placed in orbit over a year ago and its power supply has just stopped operating.

Another development which will provide more accuracy in telephone billing is

Dial Operation Will Become Universal

ACCOMPANYING the prospect of growth in the quantity of telephone service is the expectation that the quality will be improved in almost every respect. In this decade the complete evolution throughout the whole country of manual to dial telephone operation should be realized. Suburban, rural, and farm areas will have more and better service. Urban residence telephone subscribers will have better service through upgrading in the direction of individual line service.

the automatic message accounting machine. This machine will keep track of calls that are dialed directly by the telephone customers and is used in offices that handle a relatively large number of toll calls. This will be particularly advantageous in the development of the full nation-wide customer dialing. This feature will result in all customer billings being made by machine and the end product will be more accuracy and speed in rendition.

Q. WHAT are some of the obstacles to expansion?

A. There appear to be no economic obstacles inherent in the telephone development because the value of telephone service is steadily increasing and greatly exceeds its cost. From this viewpoint it seems that the telephone industry in the next decade has the economic potential to keep up with and probably outrun the expansion of the nation's economy generally. However, it should be pointed out that as a regulated industry the telephone business must obtain direct governmental sanction of its prices (tariffs) and profits.

Q. MR. FALK, are there any other obstacles that come to mind?

A. Yes, I have not touched upon the development of radio for communications service. In the next decade microwave transmission will materially increase as it offers more communications channels at a lower cost than wire or cable. Use of frequencies by common carriers, making service available to large numbers of communication users, conserves available space in the frequency spectrum. However, the expanding use of this technique will depend to a large extent on the availablity of frequency assignments.

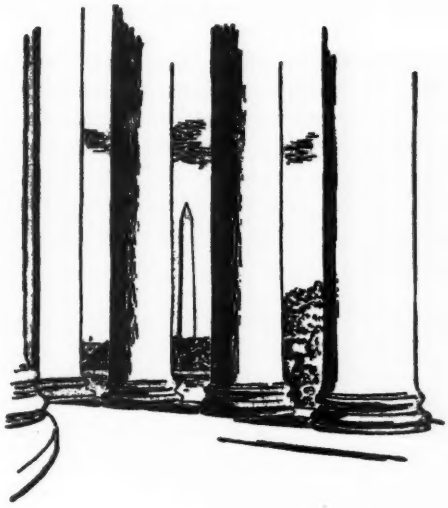
The potential for expansion of the industry includes not only growth, which should continue to keep pace with population increase, but also major service improvements and new services which can be realized through a program of research requiring considerable expenditures. For the attainment of these goals and public service, the industry obviously needs adequate earnings and freedom to exercise its initiative in promoting development in an environment of understanding and support.

Q. WILL you in a few words summarize your views?

A. Yes, I think it has been shown that we have more people, more families, rise in consumer spending for services, more money, improving service, and new products which will keep pace with demands. Also, we are facing greater decentralization of industry and population and these suburbanites will be building new homes and buying more communications service, thus providing the industry with opportunities for real expansion. We stand on the threshold of new, challenging growth factors.

We can be sure that as a public utility the industry will be prepared to pick up the gauntlet and do everything within its purview so that it will be the beneficiary of its proper share of the growth of the 1960's consistent with providing good communications service at the lowest cost in line with sound business management.

Washington and the Utilities



Soviet Power Production Hailed

THE special committee of three U. S. Senators, who last summer made a 12,500-mile tour behind the Iron Curtain to compare water and power developments there with parallel developments in the United States, finally issued their report on January 4, 1960, pursuant to S Res 248. The resulting 174-page document contained few surprises as the committee members and the public ownership advocates who made the tour with them already had expressed enthusiasm about hydro developments they saw in the Soviet Union.

Basically, however, the committee, headed by Senator Moss (Democrat, Utah), uses the joint report as a pressure argument to urge "Prompt passage of S 2549, the Resources and Conservation Act." This proposed bill is designed:

(a) to provide for an annual review of our resource situation and recommendation of national resource policies prepared by a Resources and Conservation Council in the Executive Department;

(b) to promote conservation, development, and utilization of resources; and

(c) to establish a Joint Committee on Resources and Conservation in Congress to study continuously our resource position and policies.

That the federal government—

(a) Encourage speedy completion of the job of bringing electric service to the 2 million unserved rural U. S. citizens; and

(b) Recognize the desirability of all Americans enjoying the benefits of abundant electricity at reasonable cost, and continue to make available low-cost power as necessary to accomplish this purpose.

The other two Senate members of the special committee on "Interior and Insular Affairs and Public Works" signing the report are Democratic Senators Gruening (Alaska) and Muskie (Maine). But the accompanying staff and fellow members on the delegation, whose "studies" make up the bulk of the report, are leading figures supporting the expansion of federal

public ownership in the power field. These include Michael W. Straus, Reclamation Commissioner under the Truman administration; Alex Radin, general manager of the American Public Power Association; and Clyde T. Ellis, general manager of the National Rural Electric Co-operative Association.

POLITICAL observers do not give the S 2549 bill much chance this session, in view of the veto power of the President, but it is more likely that the so-called "public power bloc" is shooting for longer-range stakes. The alleged feats of the Soviets in expanding their power production can and probably will be used to buttress a "strong public power plank" in the Democratic platform to be adopted at the Los Angeles convention next July, and could become the makings of a campaign issue.

The report concedes that Russia, as of today, is far behind U. S. power production—53 million kilowatts capacity for U. S. S. R. as compared with 142 million for the United States. But the Senators feel that Russia could overtake the United States in fifteen years. It notes that under the present seven-year plan (1959 to 1965) Russia proposes to install 12 million kilowatts. Most of this Russian supply is used for Russian industry; only about a fifth of it for residential consumption.

The report praises Russian developments in high-voltage line transmission—from 400 to 500 kilowatts—as compared with lesser voltage maxima in the United States.

A REPUBLICAN Senator from Utah called the report "naïve." "The fact of the matter is that we not only are far ahead, but are actually widening the gap," Senator Wallace F. Bennett said. Bennett said the report made by the three Democratic Senators "contains a number of statements and implications which simply cannot be taken at face value."

The Utah legislator charged that the subcommittee took along as its consultants "lobbyists for the point of view that government should replace free enterprise in the power field. It is little wonder that a group so dedicated to public power should produce a report which disparages the accomplishments and future of our free enterprise system."

Bennett said the subcommittee's report was "naïve" because to match U. S. generating capacity by 1975, the Soviet Union would have to quadruple its average 1950-56 rate and install the equivalent of eight Grand Coulee dams every year for sixteen years. "That achievement is simply not within the realm of reality," he said.

TVA to Add Million Kilowatts Next Year

ALTHOUGH the Budget Message was not due until later this month, the Tennessee Valley Authority already has told the President and Congress the amount of investment it will need to keep pace with growing power demands during the fiscal year of 1961. TVA reported that its power-generating capacity had been increased by a million kilowatts during the calendar year of 1959 and it will have to add another million in generating capacity to meet the need for more power. The 1959 increase brings TVA's total capacity to 11,386,710.

Important additions started in 1959 include the 600,000-kilowatt first unit at Paradise, Kentucky, and new units with a capacity of 162,000 kilowatts at Wilson dam, Alabama, and 97,200 kilowatts at Wheeler dam, Alabama. The biggest addition expected in 1960 is the 500,000-kilowatt unit at Widows Creek steam plant in Alabama,

now nearing completion. TVA says it will be the world's largest steam turbogenerator in operation. Field construction is scheduled to begin in January on the new 500,000-kilowatt unit at Colbert steam plant in northwestern Alabama.

Much of the new construction during 1960 will be financed by TVA under its new authority to issue revenue bonds, the statement said. TVA Director A. R. Jones said the agency expects to wait at least until next July 1st, however, before issuing its first batch of bonds.

UNDER the law, TVA may expand its electric-generating facilities by issuing revenue bonds up to a total of $750 million outstanding at any one time. A total of 61.5 billion kilowatt-hours will have been generated by TVA by the end of the calendar year.

Memphis to Boost Rates

IN an allied development, which is having some repercussions in Washington, the city of Memphis increased its electric rates 18.5 per cent in order to keep the city's new $121 million steam plant operating on a sound basis. It was this plant, built three years ago, which replaced the proposed plant to be built by a combination of utility companies known as the Dixon-Yates group. President Eisenhower on July 11, 1955, canceled the Dixon-Yates contract upon receipt of information that the city of Memphis would build the plant. The raise in rates was effective immediately, according to the United Press International.

The rate increase hits the residential users the hardest. Some will pay as much as 39 per cent more for their electricity, according to the press association. Industrial users were hit with the smallest increase, about 11 per cent. Ray Morton, president of the Memphis Light, Gas, and Water Division, had told a special hearing of the city commission that the utility faced a $6.8 million deficit in 1960.

It was in 1954 that E. A. Yates, then chairman of The Southern Company, and Edgar Dixon, president of Middle South Utilities, Inc., proposed to the Atomic Energy Commission that they build a plant at West Memphis, Arkansas, to provide power into the TVA system so that agency would have sufficient electricity to supply the AEC's needs. The contract with the AEC was signed on November 10, 1954. The contract then came under attack of proponents of government-subsidized power and made it a nation-wide issue.

AN editorial in *The Knoxville Journal* of December 19, 1959, expressed "sympathy" for the higher rates imposed on Memphians by former "Mayor Edmund Orgill, Senators Estes Kefauver and Albert Gore," et al. The editorial went on to say that if the Dixon-Yates proposal of 1954 had been permitted to stand, "the people of Memphis would have had no increase in rates because the power would have been flowing in on TVA lines." In addition, it was pointed out, the property owners of Memphis would not have had outstanding $121 million worth of revenue bonds in the city's public plant.

Columbia River Pact

THE long-awaited agreement between the International Joint Commission on the nature of dams and transmission lines along the upper Columbia river was released shortly before Christmas but there were still a number of questions on specific details which were left unanswered. The United States-Canadian commission did agree on the general principle that the cost and benefits of Columbia river flood control and power development

should be split evenly between the two countries. As a result Canada is expected to go ahead with Mica Creek dam in British Columbia, 200 miles north of the border where the Columbia river makes a big bend before turning southward to the United States. The building of Mica Creek dam and other small projects on the Canadian side would increase power production at all Columbia dams south of the border from Grand Coulee to Bonneville. Grand Coulee would receive an estimated benefit of 50 per cent increase, about 900,000 kilowatts, through construction of a third powerhouse. Additional generators would also be required at Chief Joseph dam and Bonneville.

The international agreement would also allow the first major step to be taken on Libby dam, which Congress authorized the Army Engineers to construct in 1950. But the 30-page report, which contains 16 principles—most rather general and some rather vague—does not deal with the possible diversion of the Columbia river into the Fraser river system which the Canadians have threatened to do in the past. United States officials profess to believe that if other terms of the agreement are carried out, the Canadians will not endanger the accord by tapping the Columbia river for diversion of water northward. The agreement contains no formula for sharing the benefits of Libby dam so that that area is left for future bargaining.

El Paso Merger Allowed

ALTHOUGH some dissent was noted—chiefly among the FPC legal staff, the state of California, and a couple of electric utilities in that state—the recent unanimous approval by four members of the FPC (Commissioner Hussey absent) of the merger of El Paso Natural Gas and Pacific Northwest Pipeline Corporation was generally hailed as a progressive development within the natural gas industry. The combination of the two pipelines will create a huge new company that will stretch from the Mexican to the Canadian border, binding in a single system El Paso's facilities, serving the Southwest and California markets, and Pacific's system, which extends from New Mexico to the Canadian Northwest border.

The commission's decision came within a few weeks after it had been strongly recommended by FPC Examiner Daniel J. Kelly on grounds it was "required by the public convenience and necessity." California objected on grounds that the merger would probably result in higher rates. There still remains to be resolved an antitrust suit filed by the Justice Department in the federal district court at Salt Lake City.

Judge Willis W. Ritter had refused to let the Justice Department go ahead with the antitrust suit until after the FPC acted and it is now expected that Judge Ritter will probably dismiss the suit if he agrees with the argument of El Paso and the FPC that regulatory authority to approve such mergers under the Natural Gas Act renders them immune from collateral antitrust suits. Whatever happens to the suit at Salt Lake City, the possibility of further appeal in the federal courts is in the offing.

CHARLES V. SHANNON, attorney for El Paso, has given assurances that if the merger were approved there would be no increase in natural gas rates to Pacific Northwest customers for at least a year. Attorneys for Pacific Gas and Electric Company said they would accept the merger if Pacific Northwest Pipeline maintains a separate operating system so that its gas supply costs are not intermingled with El Paso customer costs.

Telephone and Telegraph

Complaint against Telephone Charity Contribution Dismissed

A SIGNIFICANT case involving contributions to charities by a telephone company has recently been decided by the Illinois Commerce Commission.

The complaint, filed by a private citizen, alleged that the Illinois Bell Telephone Company contemplated giving $290,000 of its profits to the Community Fund-Red Cross Crusade of Mercy Campaign and had directed two of its executives to attend a four-day orientation session of the crusade. The complaint further alleged that the company intended to continue directing the two individuals, together with additional executives and employees, to devote time and effort in behalf of the Community Fund-Red Cross Crusade of Mercy, during company time, for which they were to be paid regular wages.

The complaint stated that there was no justification for the company to give away $290,000 or to donate the paid services of its executives and employees to any charity drive and that the company, therefore, was overcharging its customers at least $290,000 plus amounts paid as wages to executives and employees who were not performing actual company functions.

The theory underlying the complaint was that the contributions out of operating revenues were unlawful; but since this was not a rate case the precise question of whether the gifts could be properly charged as operating expenses was not involved.

A variety of testimony as to Chicago's welfare needs, the efforts of voluntary agencies to meet them, and the reliance of such agencies on Community Fund support, was introduced by representatives of various charities and welfare organizations. These witnesses pointed out the imminent danger to voluntary health and welfare agencies in the event that Community Fund support were decreased or discontinued, with attendant damage and suffering to persons in need of help. One of these representatives noted that nearly 60 per cent of the Community Fund's goal must come from corporate donations if the campaign is to meet with success. Another witness commented on the essential work of "lend-lease" personnel in the campaign effort and stated that these men came not only from the telephone company but from all businesses in Chicago.

IT was pointed out that the company derived substantial benefits from such donations in creating good will, with the attendant reduction of customer com-

plaints, in strengthening the economic health of the community, and in minimizing possible damage to the company's plant and equipment.

It was not disputed that there are unmet human needs in the city of Chicago and that the alleviation of such needs is the concern and to a large degree the responsibility of voluntary welfare and health agencies. In performing their work, it was noted that such agencies must depend upon private giving. Corporations in recent years have come to recognize a peculiar responsibility in carrying an increasing share of financing welfare and health work essential to the maintenance of vigorous communities and vigorous corporate existence. Support of philanthropic endeavor has finally achieved nearly universal acceptance by the public and by the law as a proper realm of corporate activity.

Earlier the view had been that philanthropic contributions by corporations, as such, were improper. However, more recently it has been accepted that such contributions are proper—leaving the question open for utilities as to whether they should be borne, if made, by the owners or included as operating charges. In light of the above, it seemed to the commission that at this time no objection can be properly made to the support by business corporations of worthy philanthropies.

THE Illinois commission stated that it was aware of the fact that a number of states have not permitted contributions of public utilities to be treated as expenses for rate-making purposes. At the same time the commission recognized that many of such determinations were made some years ago and prior to the change in thinking which led to acceptance of the need for and propriety of corporate philanthropic contributions. The commission further stated its awareness that in recent years some regulatory bodies have taken positions directly contrary to earlier determinations and now permit utilities to deduct contributions for rate-making purposes.

The commission observed that it would be difficult to envision a stronger case for showing benefit to the company than in this case presented. As already stated, this was an individual complaint, not a rate case. So, the specific allowance of $290,000 and the services of two employees as an expense item in determining rates for telephone service were not before the commission. The actual effect on patrons' telephone rates would be eight cents annually per telephone, or less than one cent a month if the income tax effect is considered. It was found that monthly rates for telephone service are not susceptible to fractional cent adjustments.

THE commission, therefore, found that (1) contributions by corporations, including public utilities, to philanthropic endeavors such as the Crusade of Mercy represent the discharge of an obligation to the communities in which such corporations do business; (2) contributions by corporations, including public utilities, inure to the ultimate benefit of the donors through the building of good will and the strengthening of the economic well-being of the community; (3) charitable contributions by public utilities are not unlawful per se, but may be lawful and proper items of expense; (4) the commission actually noted in its findings of fact that the contributions in question constitute proper operating expenses and that the company is not overcharging its subscribers $290,000 or any other amount, by reason of its contribution of the type involved; (5) the contributions involved were not excessive and do not warrant an

investigation to determine if the telephone rates of the company are excessive.

Reports Successful Year

THE American Telephone and Telegraph Company has reported that in 1959 more people used its services than ever before. More than three million telephones were added to the system and long-distance conversations were up about 10 per cent over the 1958 figure. More than three billion long-distance calls were placed during 1959, as contrasted with two billion in 1954 and one billion in 1949.

The company estimated that construction expenditures in 1959 amounted to about $2,250,000,000 and that expenditures in 1960 would come to at least that much. Additional advances by AT&T were enlargement of direct distance dialing facilities, opening of a second transatlantic cable, and introduction of more convenient and attractive telephone instruments.

AT&T President Frederick R. Kappel stated that the company looks "for good business in the year ahead." He emphasized, however, that it is most important to keep inflation arrested, keep the dollar sound, and offer Americans incentives to save and invest.

Telephone-Telegraph Statistics

THE Federal Communications Commission, in a year-end statement, has announced that the United States now has nearly 71 million telephones. Of this number, 60.1 million are part of the Bell system and 10.8 million are independents. These telephones are used to make about 226.5 million calls daily. This figure represents an increase of 16 million calls per day over the 1958 figure. Of the total figure (for calls per day) approximately 11,279,000 are toll calls.

Bell system telephones are approximately 96 per cent dial operated and the independents can claim a figure of approximately 85 per cent. In addition the number of subscribers who have use of direct dialing facilities increased during the past year.

During 1959 transatlantic telephone cable was placed in operation, between Newfoundland and France. A previous cable connected Newfoundland and England and cable facilities exist between the mainland of the United States and Hawaii and Alaska. At the present time a cable is being laid to connect the U. S. and Puerto Rico. Telephone users in the United States are now able to call 130 other countries or areas and they can be connected with nearly 98 per cent of all phones.

A recent publication, entitled *The World's Telephones,* also carries some interesting statistics. This publication notes that Washington, D. C., still holds the world's lead for the number of telephones in service. The nation's capital has 71.4 telephones for every 100 persons and about 752.6 calls are placed each year per customer. On a nation-wide basis the United States also leads the world with 38 telephones for each 100 residents.

THE Federal Communications Commission reports that last year the United States' only nation-wide telegraph service—Western Union—handled about 131 million messages.

An intercity public facsimile service was also inaugurated by Western Union during the past year and this new service permits the transmission of graphic material between Washington, New York city, Chicago, St. Louis, and San Francisco.

Financial News and Comment

By OWEN ELY

Allen King Forecasts Continued Electric Utility Growth

REVIEWING the performance of the electric power industry in 1959, EEI President Allen S. King points out that 1959 electric output of 707 billion kilowatt-hours (including public power) gained 10 per cent over 1958. Adding industrial power, overall U. S. output of 790 billion kilowatt-hours was over three times that of Russia, second ranking nation. (Communist China produced only 28 billion.) However, residential users in Russia take only about 400 kilowatt-hours a year, a little over one-tenth of the U. S. usage, presumably due to lack of appliances; thus some 80 per cent of electric output in the Soviet is used for industrial purposes.

Our overall capacity of 183 million kilowatts was also more than three times that of Russia. While the Soviet expects to increase its capacity 88 per cent in six years compared with 34 per cent for the U. S., nevertheless U. S. capacity in 1965 will still be nearly two-and-a-quarter times as large as Russia's. The two countries seem to be following much the same trend in developing new capacity. Despite the apparent emphasis on hydro in Russia, both nations currently have about 80 per cent of their facilities in steam and by 1965 Russia is expected to have about 85 per cent. Russia also has discovered the high cost of atomic energy. In the U. S. 131 utilities are spending $570 million to build 16 plants with capacity of 1.4 million kilowatts; by 1960 six plants with 490,000 kilowatts will be in operation. The overall Russian program includes five plants with capacity of 465,000 kilowatts.

OUR relative proportions of private and public power do not show much change. Of increased U. S. capability of 15.3 million kilowatts last year, 77 per cent was installed by investor-owned utilities and 23 per cent by public agencies. Construction expenditures by private utilities were $3.5 billion (not a record), raising investment in gross plant to $46 billion. With a generous reserve capacity of 27½ per cent, spending in 1960 will be

DEPARTMENT INDEX

slightly lower at $3.4 billion; increase in capacity will approximate 9.3 million kilowatts, together with 2.6 million kilowatts scheduled for government agencies.

U. S. output in 1959 was 28 per cent residential, 18 per cent commercial, 48 per cent industrial (including large commercial), and 6 per cent miscellaneous. Percentage gains over 1958 were 8 per cent for residential, 9 per cent for industrial, and 10 per cent for commercial and other use. The number of customers gained was over 2 per cent, mostly in the residential category. Residential usage in 1959 rose 5 per cent to 3,550 kilowatt-hours and in another decade may nearly double. The year's record weekly output of 14.5 billion kilowatt-hours late in December exceeded the August peak by only 3 per cent, owing to the growing importance of air conditioning.

REVENUES of investor-owned electric utilities last year were $9.2 billion, reflecting a gain of 8 per cent, while net income of $1.7 billion was up 9 per cent. A gain of 7 per cent in revenues is forecast for 1960. The private utility industry contributed $2.1 billion in taxes to all government units, an increase of 7 per cent: Taxes took 23 cents out of the revenue dollar, of which the federal government had about 13 cents and other government units 10 cents.

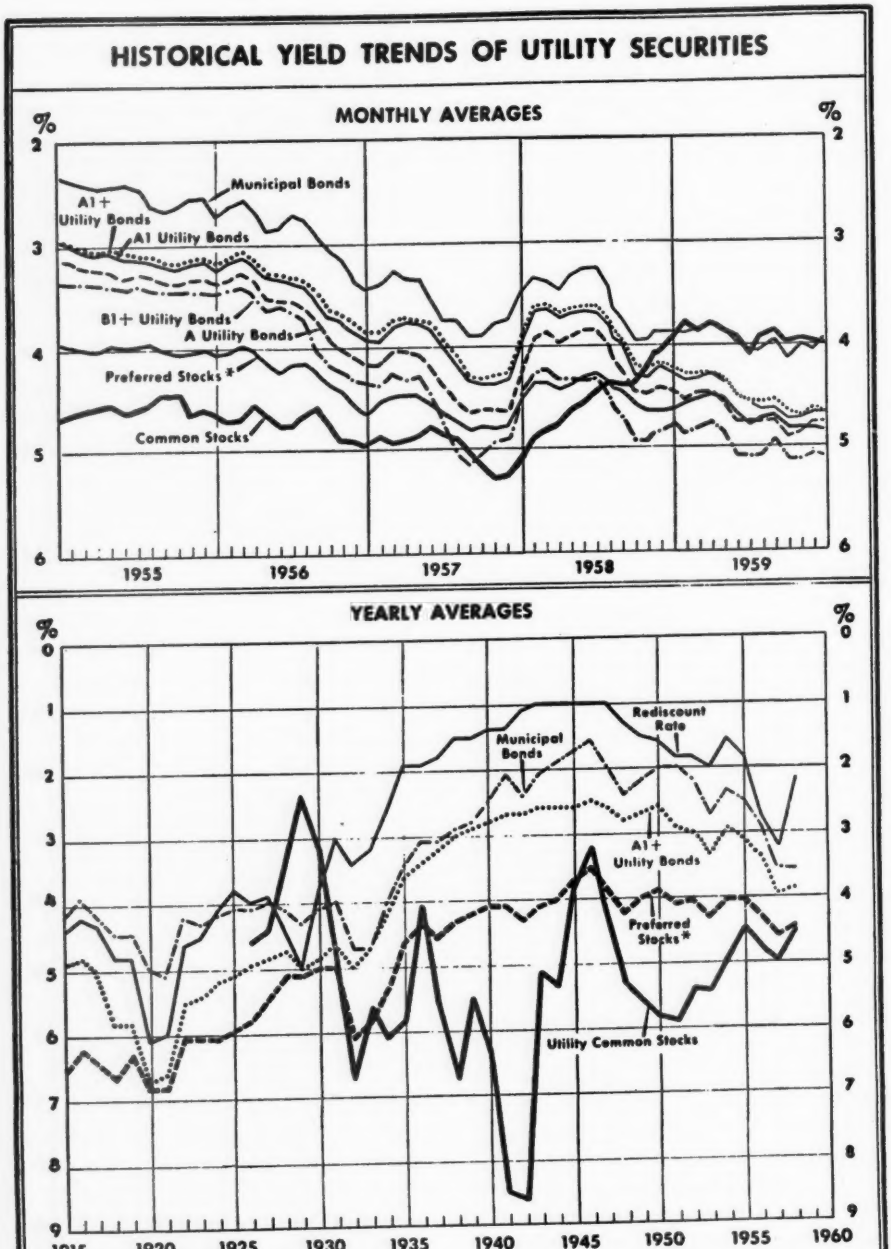
Despite inflation and due to promotional rate schedules, the average residential rate continued to decline last year by nearly one per cent, reaching 2.51 cents. In the cities the electric bill is less than one per cent of the family budget. During the fourteen years 1946-59 the electric utilities were successful in about 89 per cent of their applications for increased rates; 2 per cent were withdrawn, 4 per cent denied, and 5 per cent are pending. In the first eleven months of 1959, only one of 48 applications was denied; 31 increases were granted and 16 were pending.

The industry is continuing its promotional activities on a substantial scale, according to President King, and the institute is planning to spend $2.5 million in 1960 on the "Live Better Electrically" program, featuring the Medallion Home, with increasing emphasis on electric house heating. Magazine advertising will be used to a greater extent than in the past.

Gas Industry Sets New Records, With House Heating Big Gainer

AGA President Wister H. Ligon, in his year-end report on the gas industry, described the records established in 1959 and the favorable outlook for the 1960's. The industry's 100 transmission companies and 1,350 distribution companies now serve 32.6 million customers. Last year ended the greatest decade of expansion in the industry's 143-year history; customers increased 39 per cent while sales, revenues, and gross plant more than doubled. Major achievements last year were the completion of the 1,475-mile pipeline from Texas to Florida, costing $160 million; and the successful technological feat of shipping methane (low-temperature liquefied natural gas) by tanker from Louisiana to Great Britain.

The industry expects to continue its rapid growth in the 1960's, and accordingly spent $1.8 billion for new facilities last year; it plans to spend $6.2 billion in the three years 1960-62, or nearly as much as in the four years 1955-58. During the 1960's the industry expects to spend $1.8 billion on underground storage facilities, permitting further gains in gas house heating.


HISTORICAL YIELD TRENDS OF UTILITY SECURITIES
MONTHLY AVERAGES
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Municipal Bonds
A1+ Utility Bonds
A1 Utility Bonds
Baa1+ Utility Bonds
A Utility Bonds
Preferred Stocks *
Common Stocks
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YEARLY AVERAGES
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9
Municipal Bonds
Rediscount Rate
A1+ Utility Bonds
Preferred Stocks *
Utility Common Stocks
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1920
1925
1930
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1940
1945
1950
1955
1960
* Includes other preferred stocks in addition to utilities.
Standard & Poor's Index figures used

The historic transition from manufactured and mixed gas to all-natural gas continues, with 91 per cent of customers now obtaining natural gas. (It might be added, however, that these statistics do not include the large number of country customers using LP gas.) By the end of the coming decade the gas industry expects to be serving over 43 million customers. House-heating customers now total about 20 million or nearly two-thirds of all residential gas users; the number is expected to reach 33 million by 1969.

IN 1959, gas sales in therms gained 9 per cent and revenues 11 per cent. The mileage of lines in the nation's gas network increased 4 per cent to over 595,000 miles; within a decade this is expected to increase to 878,000. Expansion programs will cost an estimated $1.9 billion this year or slightly more than last year. Gross plant should reach $21.5 billion at the end of 1960 and at least $45 billion in 1969 (although at the beginning of 1950 it stood at only $7 billion). Reserves of natural gas at the beginning of 1959 approximated 254 trillion cubic feet, compared with net production of nearly 11.5 trillion cubic feet in 1958.

Appliance sales in 1959 made a sharp recovery from the 1957-58 recession, with sales of hot water heaters exceeding 3 million units and gas ranges 2 million. Central heating showed a gain of nearly 24 per cent, and gas drier sales spurted 26 per cent. The industry has lagged in refrigeration; but the number of gas refrigerator manufacturers increased to three in 1959 when Whirlpool acquired Servel, and a fourth company (Borg-Warner) will market gas models in 1960.

THE "PAR" Program (promotion, advertising, and research) completed its fifteenth year with 1959 expenditures of over $7 million, nearly half of which was spent for TV programs with 32 Playhouse 90 shows. The "Gold Star" (appliances) and "Blue Star Home" programs were introduced.

The industry hopes to treble its research efforts in the coming five years and the PAR research budget of $2.5 million for 1960 will be 40 per cent more than last year; it will be stepped up to $6 million by 1965. Including individual gas companies and appliance manufacturers as well as AGA, $5 million was spent for research and over $14 million per annum is expected within five years.

Research continued in the development of economical methods of producing synthetic gas from coal and (more recently) from oil-bearing shale rock. The 70 research projects also covered progress in air conditioning, usage of gas, pipeline transportation, etc. An interesting project was the development of a small self-contained, all-gas forced-air furnace, which also generates electricity to operate its own warm-air circulating fan; employing thermoelectric principles, the furnace uses thermocouples which convert gas heat directly into electricity. "Its development," President Ligon states, "opens a wide range of new design concepts for appliances in which gas would serve as the sole source of heat, electricity, and mechanical motion."

We might add, editorially, that the gas industry is reported much interested in developing the new fuel cell, with supplemental heat supplied by gas, as a source of electricity to operate appliances locally.

Canada's Ambitious $4 Billion Hydro Program

WHILE future hydro plans in the United States are beginning to taper

off, there are still some excellent sites in Canada and the various long-range development plans (some rather nebulous) might cost as much as $4 billion over the next decade, according to articles in the *Financial Post* of Toronto. Most interesting are the two huge projects in British Columbia—a billion-dollar public power development (to be financed jointly by the British Columbia and Canadian governments) on the Columbia river, and a $611 million private project on the Peace river proposed by the Wenner-Gren interests. Each project would have about 3 million or more kilowatts capacity—the largest hydro development in the world. While construction of both would seem to involve a huge glut of power, Premier Bennett at Ottawa recently stated: "We want them both just as fast as we can get them . . . to create new industries and jobs."

Judging from the relative amounts of capital involved for similar capacity it would appear offhand that the Wenner-Gren power would be cheaper. Nevertheless, Ottawa is said to hold that Columbia river power will cost only about 4 mills per kilowatt-hour *versus* 6 mills for Peace river. Moreover, the Columbia development would be done with public money while the Peace river would involve private financing and hence "profits for promoters." It seems a little difficult to reconcile the 4-mill estimate with the present high cost of money in Canada.

THE Wenner-Gren interests, acting through the Peace River Power Development Company, recently announced that they were ready to proceed with the construction of their project as soon as British Columbia authorization is available, and informal approval is already indicated.

They are scheduled to present a nine-volume report to the B. C. government, which has hired U. S. and Canadian experts to study it. No financial plans have been disclosed as yet, although much preliminary work has been done in Canada and England. Wenner-Gren is, of course, interested in the overall development of power, minerals, and timber. It is not clear to what extent his plans depend on export of power to the U. S.—Ottawa is said to be strongly opposed to such export. Much of this power would doubtless be used for mineral and industrial development.

The Columbia river project involves agreement with the U. S. on the proportion of downstream benefits which will revert to Canada—a delicate question, since much downstream power is already developed (or earmarked) in the U. S.; some enabling legislation from the U. S. Congress may be necessary. An International Joint Commission is at work on the problem and is said to have reached a preliminary agreement on some points. It is said that U. S. utilities (public and private) will be able to obtain added year-round capacity of about two million kilowatts because the initial Mica Creek project will store enough water to regularize flow in the lower reaches of the Columbia, in Washington and Oregon; and Canada is said to be asking for half of this added power, to be delivered at the border by U. S. agencies. (See, also, page 101.)

CANADIAN hydro projects under construction or likely to be started within the next decade in Quebec and the other four eastern provinces may total some $2 billion or more, it is estimated. This does not include Quebec Hydro's 800,000-horsepower Bersimis No. 2 project on the north shore of the lower St. Lawrence, or the 1 million-horsepower Chute-des-Passes plant being built by Aluminum Company of Canada in interior Quebec, both of which are expected to be completed in 1960.

Rochester G&E Plans Annual Stock Dividend

ANOTHER utility has now followed the example of Commonwealth Edison (and three smaller utilities) in adopting a policy of paying regular cash and stock dividends. Rochester Gas & Electric Corporation, in a letter to stockholders dated November 25th, stated that it plans to continue its regular quarterly 45-cent rate in cash, or $1.80 per annum, but will also pay its first annual stock dividend of 3 per cent. If this is approved by the New York State Public Service Commission, it is planned to distribute it with the regular quarterly cash dividend on January 25th. Public utility companies in the state of New York had previously been prohibited by law from declaring stock dividends, but in 1959, with the approval of the public service commission, a new law was passed to authorize their declaration.

Rochester G&E advanced about five points after the announcement. The company points out that the new policy should help to maximize the return on owners' investment. Those who require all-cash income can obtain more net after taxes by selling the dividend stock than they could obtain from a cash dividend of the same amount; on the other hand, those who wish to increase their stock holdings will benefit more by a stock dividend than if they used dividend cash to buy shares in the open market. The letter stated:

> The growth of the company has required large and frequent issues of rights in recent years in connection with the sale of additional common stock to stockholders to help in the financing of its increasing construction. It is believed that the new stock dividend policy should reduce the amount and frequency of rights offerings in the future. It is our belief that about the same number of shares will be issued under the plan as would be required under the former practice, as the gross construction requirements will be the same in either case. The basic difference is that if stock dividends are distributed a substantial amount of the stock will be received by stockholders as a tax-free distribution, whereas if handled as an additional cash distribution followed by an issue through rights, the stockholders would be taxed at their full rate upon the added cash dividend income. Thus, it is believed that the plan should provide substantial benefit to stockholders as well as being very helpful in financing the growth of the company.

Investors seeking liberal yields, who are willing to take part of their income by cashing the year-end extra in stocks, can obtain above-average returns from the four stocks which now follow the general policy described above. (See table below.)

Citizens Utilities Company, which pioneered years ago in paying cash and stock dividends, now pays cash on its "B" shares and stock on the "A" shares.

	Recent Approx. Price	*Annual Cash Div. Rate*	*Yield Based on Cash Div.*	*Annual Stock Dividend*	*Approx. Total Yield*
Commonwealth Edison	57	$2.00	3.5%	2⅓%	5.8%
Rochester Gas & Electric	50	1.80	3.6	3	6.6
Michigan Gas & Electric	75	1.70	2.3	3	5.3
Missouri Public Service	18	.72	4.0	2*	6.0

*Paid quarterly at the rate of one-half per cent.

Borrowing May Be Tougher in 1960

BUSINESS WEEK points out that bank loan-deposit ratios have now risen to a postwar high, just under the 1929 record. This means that if the Federal Reserve Board maintains its present pressure, some borrowers will be unable to get credit and other requests may be scaled down. However, the pinch will doubtless be felt mainly by speculative loans. An increase in the 5 per cent prime lending rate seems likely before mid-1960.

Bank loans increased about $10 billion in 1959, about the same amount as in 1955; and some bank deposits were withdrawn to take advantage of higher short-term interest rates available elsewhere. This squeeze accounted for the rise in the ratio of loans to deposits. New York city banks are said to be getting fairly close to their working limit of 70 per cent. Of course, the Fed could always ease the situation, but apparently the board is not relaxing its fight against inflation. It has more power now than in earlier years, because the banks no longer have big government bond portfolios to give them lending power; also with bond prices so low, they do not like to take losses on governments. But, according to *Business Week*, foreign banks can also call the tune, should they decide to reduce their deposits here.

BUILDING of business inventories, depleted during the steel strike, will call for more funds, and consumer credit is also increasing steadily. Leading credit companies are now announcing substantial bond financing, presumably to reduce bank borrowing. Thus, the shortage of bank credit has an indirect effect on the bond market. However, new steel or rail strikes might again change the picture.

What's ahead for the bond market—will yields again rise to the September level or higher? So far as definitely scheduled utility financing is concerned, the volume of first-quarter offerings seems low. Much may depend on the trend of Treasury financing.

FINANCIAL DATA ON ELECTRIC UTILITY STOCKS

Annual Rev. (Mill.)			*12/21/59 Price About*	*Dividend Rate*	*Approx. Yield*	*Recent Share Earns.*	*% Increase*	*Aver. Incr. In Sh. Earns. 1953-58*	*Price-Earn. Ratio*	*Div. Payout*	*Approx. Common Stock Equity*
$297	S	American Elec. Power	47	$1.80	3.8%	$2.26Oc	—	7%	20.8	83%	36%
57	O	Arizona Pub. Serv.	36	1.20	3.3	*1.81Se	D5%	9	*19.9	66	28
12	O	Arkansas Mo. Power	21	1.00m	4.8	1.34Se	—	2	15.7	75	32
36	S	Atlantic City Elec.	29	1.10	3.8	*1.43Se	15	8	*20.3	77	33
153	S	Baltimore Gas & Elec.	27	1.00	3.7	1.41Se	23	7	19.1	71	41
7	O	Bangor Hydro-Elec.	39	2.00	5.1	3.05Se	35	5	12.8	66	33
6	O	Black Hills P. & L.	32	1.44	4.5	2.53Oc	5	4	12.6	57	32
109	S	Boston Edison	62	3.00	4.8	3.64Je	NC	4	17.0	82	43
27	A	Calif. Elec. Power	19	.80	4.2	*1.16Se	9	5	*16.4	69	35
23	O	Calif. Oreg. Power	34	1.60	4.7	1.93My	1	3	17.6	83	37
9	O	Calif. Pac. Util.	38	1.80	4.7	2.67Oc**	17	4	14.2	67	31
70	S	Carolina P. & L.	39	1.32	3.4	2.16N	7	5	18.0	61	42
32	S	Cent. Hudson G. & E.	19	.80	4.2	*1.39Se	5	5	*13.7	58	36
23	O	Cent. Ill. E. & G.	33	1.44	4.4	2.17Oc	7	11	15.2	66	43
39	S	Cent. Ill. Light	34	1.52	4.6	2.28N	14	8	14.9	67	33
55	S	Cent. Ill. P. S.	44	1.76	4.0	2.69Se	5	13	16.4	65	35
17	O	Cent. Louisiana Elec.	46	1.80	3.9	2.09Se	D8	7	22.0	86	30
39	O	Cent. Maine Power	24	1.40	5.8	*1.67N	D2	4	*14.4	83	33
147	S	Cent. & South West	63	1.80	2.9	2.76Se	10	8	22.8	65	40
12	O	Cent. Vermont P. S.	20	1.08	5.4	*1.34Oc	D1	9	*14.9	81	35
128	S	Cincinnati G. & E.	32	1.50	4.7	1.85Se	D4	3	17.3	80	43
8	O	Citizens Util. "B"	13	.53	4.1	.69Se	6	6	18.8	77	48

Annual Rev. (Mill.)		(Continued)	12/21/59 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	% Increase	Aver. Incr. In Sh. Earns. 1953-58	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
119	S	Cleve. Elec. Illum.	50	1.80	3.6	2.93Se	14	5	17.1	61	45
6	O	Colo.-Cent. Power	23	.75	3.3	1.16Se	18	6	20.0	65	39
46	S	Columbus & S. O. E.	41	1.60	3.9	2.29Se	11	—	17.9	70	30
405	S	Commonwealth Ed.	57	2.00h	5.8h	3.66Oc	18	7	15.6	55	43
14	A	Community Pub. Serv.	23	1.00	4.3	1.43Se	7	5	16.1	70	46
78	O	Conn. Lt. & Pr.	23	1.10	4.8	*1.35N	D4	5	*17.0	81	39
582	S	Consol. Edison	59	2.80	4.7	*3.87Se	7	5	*15.5	72	36
228	S	Consumers Power	54	2.60	4.4	3.64N	17	1	14.8	71	38
83	S	Dayton P. & L.	49	2.40	4.9	3.22Se	D3	4	15.2	74	40
50	S	Delaware P. & L.	70	2.28	3.3	3.18Se	13	9	22.0	72	33
246	S	Detroit Edison	42	2.00	4.8	2.38Oc	11	3	17.6	84	47
145	A	Duke Power	45	1.40i	3.1	2.15Se	4	9	20.9	65	46
99	S	Duquesne Light	23	1.10	4.8	*1.38Se	D3	5	*16.2	80	34
33	O	East. Util. Assoc.	41	2.20	5.4	3.05Oc	14	3	13.4	72	34
3	O	Edison Sault Elec.	19	.90	4.7	1.43Se	27	8	13.3	63	34
16	O	El Paso Elec.	35	1.16	3.4	1.62Oc	3	8	21.6	72	37
12	S	Empire Dist. Elec.	27	1.36	5.0	1.90Oc	NC	3	14.2	72	33
57	S	Florida Power Corp.	30	.80	2.7	1.07Se	D12	15	28.0	75	35
145	S	Florida P. & L.	55	.88	1.6	1.91Se	11	18	28.8	46	42
4	O	Florida Pub. Utils.	21	.72	3.4	1.22Se	3	3	17.2	59	31
213	S	General Pub. Util.	24	1.12	4.7	*1.62Se	4	5	*14.8	69	40
7	O	Green Mt. Power	20	1.10	5.5	1.26Se	D3	10	15.9	87	37
70	S	Gulf States Util.	30	.90	3.0	1.35Oc	10	7	22.2	67	32
51	A	Hartford Elec.	64	3.00	4.7	*3.81Se	—	2	*16.8	79	40
25	O	Hawaiian Elec.	54	2.50	4.6	3.26Se	11	6	16.6	8[illegible]	34
94	S	Houston L. & P.	69	1.60	2.3	2.99Oc	—	8	23.1	54	41
30	S	Idaho Power	48	1.70	3.5	2.16Se	D18	9	22.2	79	33
92	S	Illinois Power	45	2.00	4.4	2.60Oc	27	7	17.3	77	37
49	S	Indianapolis P. & L.	39	1.70	4.4	2.41Se	14	7	16.2	71	35
31	S	Interstate Power	18	.90	5.0	1.19Se	10	4	15.1	76	32
37	S	Iowa Elec. L. & P.	33	1.60	4.8	2.33Oc	12	5	14.2	69	40
44	S	Iowa-Ill. G. & E.	39	1.90c	4.9	2.48Se	6	—	15.7	77	43
41	S	Iowa P. & L.	34	1.60	4.7	2.01Se	4	1	16.9	80	34
35	O	Iowa Pub. Ser.	20	.80	4.0	1.24Se	10	3	16.1	65	32
15	O	Iowa Southern Util.	29	1.36	4.7	2.20Oc	12	4	13.2	62	40
61	S	Kansas City P. & L.	47	2.20	4.7	3.01Oc	D2	5	15.6	73	34
33	S	Kansas G. & E.	46	1.64	3.6	2.74N	10	8	16.8	60	31
50	S	Kansas P. & L.	32	1.36	4.3	2.30Se	15	9	14.0	59	34
43	O	Kentucky Util.	37	1.60	4.3	2.76Se	17	7	13.4	58	40
7	O	Lake Superior D. P.	23	1.20	5.2	1.68Se	7	2	13.7	71	41
122	S	Long Island Ltg.	32	1.30	4.1	*1.99Se	3	6	*16.1	65	34
61	S	Louisville G. & E.	41	1.40	3.4	2.43Se	10	6	16.9	58	42
11	O	Madison G. & E.	47	1.80	3.8	4.03Se	16	2	11.7	45	45
5	A	Maine Pub. Serv.	21	1.20	5.7	1.46Oc	D4	6	14.4	82	40
7	O	Michigan G. & E.	74	1.70j	5.3	5.67Se	26	9	13.1	30	37
183	S	Middle South Util.	56	1.90	3.4	2.77Oc	6	5	20.2	69	39
30	S	Minn. P. & L.	33	1.60	4.8	2.20N	D1	3	15.0	73	33
3	O	Miss. Valley P. S.	30	1.40	4.7	2.34Se	12	5	12.8	60	33
15	S	Missouri P. S.	18	.72f	4.0	.95Oc	D1	3	18.9	76	30
7	O	Missouri Util.	27	1.36	5.0	1.71Se	4	—	15.8	80	30
44	S	Montana Power	23	.80	3.5	*1.40Se	8	9	*16.4	57	39
167	S	New England Elec.	20	1.08	5.4	1.29Se	7	1	15.5	84	36
46	O	New England G. & E.	23	1.16	5.0	1.70N	8	6	13.5	68	41
98	S	N. Y. State E. & G.	27	1.20	4.4	*1.94Oc	9	9	*13.9	62	38
264	S	Niagara Mohawk Pr.	35	1.80	5.1	*2.03Se	D5	1	*17.2	89	28
92	O	Northern Ind. P. S.	52	2.00	3.8	3.05Se	10	3	17.0	66	36
155	S	Northern Sts. Power	24	1.10	4.6	1.36Se	5	3	17.6	81	36
11	O	Northwestern P. S.	22	1.10	5.0	1.52Se	6	2	14.5	72	32
138	S	Ohio Edison	59	2.64	4.5	3.85Se	8	3	16.1	69	40
54	S	Oklahoma G. & E.	30	1.12	3.7	1.49Oc	3	9	20.1	75	31
26	O	Orange & Rockland Utils.	29	.90	3.1	*1.29De**	3	16	*22.5	70	27
17	O	Otter Tail Power	31	1.60	5.2	2.68Oc	20	1	11.6	60	30
535	S	Pacific G. & E.	63	2.60	4.1	3.75Se	3	6	16.8	67	34
52	O	Pacific P. & L.	36	1.60	4.4	*2.20Je	NC	7	*16.3	73	30

Annual Rev. (Mill.)		(Continued)	12/21/59 Price About	Dividend Rate	Approx. Yield	Recent Share Earns.	% Increase	Aver. Incr. In Sh. Earns. 1953-58	Price-Earn. Ratio	Div. Payout	Approx. Common Stock Equity
131	S	Penn P. & L.	26	1.25	4.8	1.68Oc	6	5	15.5	74	34
248	S	Phila. Elec.	50	2.24	4.5	2.85Se	3	3	17.5	79	38
36	O	Portland Gen. Elec.	25	1.20	4.8	1.69N	D11	7	14.8	71	37
72	S	Potomac Elec. Pr.	27	1.32	4.9	*1.64Se	12	6	*16.5	80	36
97	S	Pub. Serv. of Colo.	52	1.90k	3.7	2.57Se	—	5	20.2	74	33
344	S	Pub. Serv. E. & G.	37	1.80	4.9	2.45Se	10	3	15.1	73	35
81	S	Pub. Serv. of Ind.	43	2.10	4.9	2.77Oc	D3	4	15.5	76	33
32	O	Pub. Serv. of N. H.	18	1.00	5.6	1.30Oc	4	6	13.8	77	36
15	O	Pub. Serv. of N. M.	33	.90	2.7	1.51Se	12	13	21.8	60	34
27	S	Puget Sound P. & L.	31	1.44	4.6	2.07Je	9	10	15.0	70	42
65	S	Rochester G. & E.	49	1.80o	3.7	*3.33Se	28	4	*14.7	54	34
9	S	St. Joseph L. & P.	31	1.50n	4.8	2.24Se	18	2	13.8	67	34
59	S	San Diego G. & E.	25	1.12	4.5	1.78Se	40	3	14.0	63	35
11	O	Savannah E. & P.	30	1.00	3.3	1.25Oc	D16	8	24.0	80	32
11	O	Sierra Pacific Pr.	38	1.40	3.7	2.30Oc	14	8	16.5	61	31
256	S	So. Calif. Edison	60	2.60	4.3	3.73Se	6	8	16.1	70	36
50	S	So. Carolina E. & G.	36	1.30	3.6	1.77Se	D4	11	20.3	73	33
7	O	Southern Colo. Pr.	18	.90	5.0	1.30Au	D12	4	13.8	70	36
272	S	Southern Co.	41	1.30	3.2	1.89Se	6	7	21.7	69	34
20	S	So. Indiana G. & E.	32	1.60	5.0	2.50Oc	3	3	12.8	64	35
8	O	So. Nevada Power	29	1.10	3.8	1.79Oc	20	6	16.2	61	46
4	O	Southwestern E. S.	17	.72	4.2	1.01N	6	5	16.8	71	28
47	S	Southwestern P. S.	48	1.56	3.3	2.06Oc	17	7	23.3	76	37
32	A	Tampa Elec.	29	.60	2.1	.93Oc	10	9	31.2	65	33
168	S	Texas Utils.	72	1.92	2.7	2.89Oc	6	11	24.9	66	41
42	S	Toledo Edison	16	.70	4.4	1.16Se	5	4	13.8	60	31
17	O	Tucson G. E. L. & P.	26	.76	2.9	1.08Se	D10	9	24.1	70	41
132	S	Union Elec. of Mo.	32	1.64	5.1	*1.72Se	NC	6	*18.6	95	32
36	O	United Illum.	27	1.38	5.1	1.64Se	1	3	16.5	84	50
6	O	Upper Peninsula Pr.	29	1.60	5.5	1.73Se	5	2	16.8	92	32
45	S	Utah Power & Light	35	1.32	3.8	1.85Oc	6	6	19.0	71	44
140	S	Virginia E. & P.	39	1.10	2.8	1.67Oc	2	13	23.4	66	40
31	S	Wash. Water Pr.	43	2.00	4.7	*2.73Oc	20	6	*15.7	73	32
142	S	West Penn Elec.	36	1.60	4.4	2.33Oc	4	6	15.5	69	32
77	O	West Penn Power	58	2.40	4.1	3.48Je	6	6	16.7	69	38
12	O	Western Lt. & Tel.	42	2.00	4.8	3.18Se	15	2	13.2	63	41
28	O	Western Mass. Cos.	24	1.20	5.0	1.69Se	2	—	14.2	71	50
119	S	Wisc. Elec. Pr. (Cons.)	38	1.80	4.8	2.75Se	25	1	13.8	65	40
44	O	Wisconsin P. & L.	33	1.48	4.5	2.32Se	18	3	14.2	64	37
43	S	Wisconsin P. S.	26	1.30	5.0	1.87Se	8	3	13.9	70	35
		Averages			4.3%		7%	6%	16.7	70%	
		Foreign Companies									
215	S	Amer. & Foreign Pr.	9	$ .50	5.6%	$2.04Je	D6%	0%	4.4	24%	57%
129	A	Brazilian Traction	5	—	—	.64De	D58	—	7.8	—	76
83	A	British Col. Pr.	38	1.40	3.7	1.95De	D16	7	19.5	72	28
20	O	Calgary Power	18	.40	2.2	.89De	11	18	20.2	45	31
19	A	Gatineau Power	39	1.50	3.8	2.55De	7	9	15.3	59	35
49	O	Mexican L. & P.	15	1.00b	6.7	1.66De	D16	—	9.0	60	41
15	A	Quebec Power	35	1.60	4.6	2.34De	8	10	15.0	68	53
71	A	Shawinigan Water & Pr.	31	.68	2.2	1.60De	5	23	19.4	43	38

*Deferred taxes resulting from liberalized depreciation are not normalized. If they had been normalized the price-earnings ratio would be higher. **On average shares. †Stock dividends (only) are paid on the "A" shares. D—Decrease. NC—Not comparable. A—American Stock Exchange. O—Over-counter or out-of-town exchange. S—New York Stock Exchange. Ja—January; F—February; Ma—March; Ap—April; My—May; Je—June; Jy—July; Au—August; Se—September; Oc—October; N—November; De—December. b—Also 5 per cent stock dividend May 1, 1959. c—Also 5 per cent stock dividend June 10, 1959. f—Also stock dividend of one-half per cent quarterly. h—Also 2½ per cent stock dividend December 1, 1959, included in the yield. i—Also 15 per cent stock dividend January 29, 1959. j—Also 3 per cent stock dividend (paid each year end) included in the yield. k—Also 5 per cent stock dividend payable February 20, 1959. m—Also 5 per cent stock dividend June 15, 1959. n—Also 10 per cent stock dividend November 20, 1959. o—Also 3 per cent stock dividend January 25, 1960.

What Others Think

Now Computers Can Talk to Each Other!

A NEW service concept of using the regular telephone network to permit machines to talk to machines via DataPhone was described in the autumn issue of the *Bell Telephone Magazine* by Private Line and TWX Engineer John H. Craig of American Telephone and Telegraph Company. Shopping by phone, checking credit, recording sales, and many other telephonic marvels may well become commonplace in the future. Data processing and communications will make them possible.

Explains Craig, using department store shopping as an example of how DataPhone might work:

> . . . *data* simply means any information, such as your name (or code number), the amount of your purchase, the date, the store, and your bank. These data are sent into a central point where a computer "processes" the information; the processing consists of locating your account in its memory file, subtracting from it the amount of your purchase, and transferring that amount to the store. . . .

The need for data communications, Craig predicted, is going to grow greater as automation spreads and there is more data processing. Today data processing is already big business. There are many companies producing a large volume of business machines, electric typewriters, adding machines, calculators, tape readers, card readers, tape-to-card and card-to-tape converters, all sizes of computers, various input devices, such as agent sets, and communications machines, like the teletypewriter.

Engineer Craig pointed out that although communications does not play a large rôle in today's data processing picture, it is becoming more and more important each day. This system is especially useful for a company with geographically dispersed locations where it wishes to use a centrally located computer to handle the inventory control of all its outlying plants. The most practicable way to interconnect all these points is to use a regular telephone network. For flexibility, Craig said, the existing telephone network cannot be surpassed. It can handle messages of any length and can accommodate voice and data messages in many codes and at many transmission speeds. Also, it provides wonderful coverage throughout the country with connections to more than 60 million telephones.

How Machines Talk

In using the regular telephone network for data traffic we must change

> the data signals—normally d-c pulses —into signals appropriate for the regular telephone network. This function is performed by a Data-Phone "subscriber set" or "subset"—specifically it translates each d-c pulse into a tone (or tones) for transmission over the telephone network. This subset performs the same kind of function for data that the familiar telephone subset does for you and me. That is, it takes the "machine talk" and changes it into signals to send over the telephone network.

Craig said the Data-Phone subset serves no purpose by itself. But when matched with a machine it permits the machine to talk to another machine.

Data-Phone, using a recorded carrier subset, and a digital subset, has been available for less than two years. Service with them has been quite successful on the whole—proving that Data-Phone is technically feasible and practical.

Available immediately in subsets are 600 bits per seconds digital types, the recorded carrier subset (including built-in speed-changing facilities), and the low-speed (75 bits per second) 130 type. Other higher-speed types are under development as well as high-speed and low-speed parallel subsets designed chiefly for data-gathering applications.

How Low-speed Data Transmission Works

IN order to explain low-speed parallel data transmission, Craig gave an example of its use in the Bell system:

> The installers in the operating companies today are required to prepare written orders for the equipment they need. These orders are received at the Western Electric Distributing House where clerks process the order. This manual handling is time-consuming, subject to error, and expensive. . . . To solve this problem the Western Electric people designed a new system using a new simple card reader which works with the new parallel Data-Phone subset to transmit the required ordering information over telephone lines to a central card punch. The punched cards are fed into a card reader associated with a computer.
>
> Each installer (or other authorized person) has his own number to uniquely identify him. The computer is programed to recognize his number, not only as a name, but also his ordering authorities in terms of total dollars, and specific quantities of individual items, and his delivery address. Each item to be ordered has its own number as well. These numbers are punched into business machine cards, one-third normal size.

Here is how the system works. An installer places a telephone call to the central point, inserts his identity card, and follows with the cards of each item to be ordered. He uses a key set on the card reader to key in the quantity of each item. The system uses error checking and different tones to indicate an "OK" transmission, or one in error. In case of error, the operation is repeated.

TELETICKETING is another low-speed application of Data-Phone that is of special interest to airlines. Here conventional teletypewriters are used to transmit tickets from an air-line office to a customer's location. This system will do away with the necessity for sending a messenger to the air-line office to pick up a ticket. With teleticketing, the air-line office originates a Data-Phone call and when the called teletypewriter is on the

line the air-line operator types out the ticket.

How about Data-Phone for present users? Craig said TWX customers might find it more to their advantage since they would achieve mechanization and share the great flexibility of the telephone network. And those with automatic private line switching systems, for example, might find the system useful. It would enable them to remove switching equipment from their premises.

He added:

> . . . Teletypewriter station apparatus could be arranged to work with these [slow speed serial Data-Phone] subsets to provide for automatic establishment of the connections and transmission of messages. This combination of teletypewriter station apparatus and Data-Phone subsets would permit machine-to-machine talk with no human action except preparation and reading.

Craig said telephone people are interested in handling the big volume of data traffic that will inevitably comprise the business pattern of the future. Their aim is to provide the communications channels and the switching equipment—including the Data-Phone subsets—connecting customers and their machines with each other rapidly and cheaply. The customers, he said, would be expected to provide the data processing equipment at either end.

AT&T expects to see a greatly expanded use of all kinds of business equipment in the future, especially low-speed input devices and centralized computers. It will have a "family" of Data-Phone subsets to permit all kinds of business machines, operating at any speed, to use AT&T's switching system. In brief, AT&T will have the transmission facilities of any required band width—electronic switching systems—and the Data-Phone subsets to allow the Bell system to furnish the kind of data communications its customers will want.

—J. W. H.

Management Fights Featherbedding

FEATHERBEDDING apparently is more widespread than is generally realized among unionized industries. Unions, rather than management, decide where workers are to work and what they are to do. And this kind of arbitrary action is not confined merely to the steelworkers, railroaders, or the dock workers. This is the gist of an article written by James R. MacDonald in *The Wall Street Journal* on November 4th.

More and more managements are starting to buck the unions on the work rules issue. A top executive of the AFL-CIO Industrial Union Department in Washington, D. C., made this comment on featherbedding: "Work rules have been a major issue in every bargaining situation I've heard of in recent months. The big drive is to get more management flexibility."

A Federal Mediation and Conciliation Service official in San Francisco believes the new labor law has encouraged management. He states that "The fact that the government has finally indicated its willingness to take some steps to curb union power is undoubtedly having a favorable psychological effect on employers."

More labor disputes of lengthy duration are bound to result from management's new insistence on the unions relinquishing their hold on basic employers' rights. Especially since the labor leaders

refuse to compromise and at the same time push for higher wages. MacDonald recounted what has been happening in a recent dispute involving Pacific Gas and Electric Company, one of the nation's largest utilities:

> Just two months ago, the 9,000-member Local 1245, International Brotherhood of Electrical Workers, was negotiating a new contract with PG&E. The company proposed two contract changes involving management rights.
>
> PG&E suggested that the company be granted the right to ask workers to report directly to a specific job site, instead of to a central point from which workers would be transported, on company time, to the work location. According to a company official, "This would save money and time in two ways: First, by reporting to the job site, workers would put in more time on the job and get more done. Second, it would eliminate much of the costly transportation expense we incurred under the old method." The union, however, rejected the proposal.

ANOTHER proposal of the company was the right to refuse to admit union business agents to company property. PG&E claimed that the unrestricted comings and goings of business agents of the union interfered with work production and work schedules. The union refused on the grounds it would make policing the contract—checking on whether the company was living up to the provisions—virtually impossible. The contract was signed without either of the company's proposals being incorporated.

Work rules caused a tense situation in contract negotiations recently between the Communications Workers of America and the Rochester Telephone Corporation. A union official explained what happened:

> The company wanted power to assign work to any employee it wanted. (We had a real tense situation.)

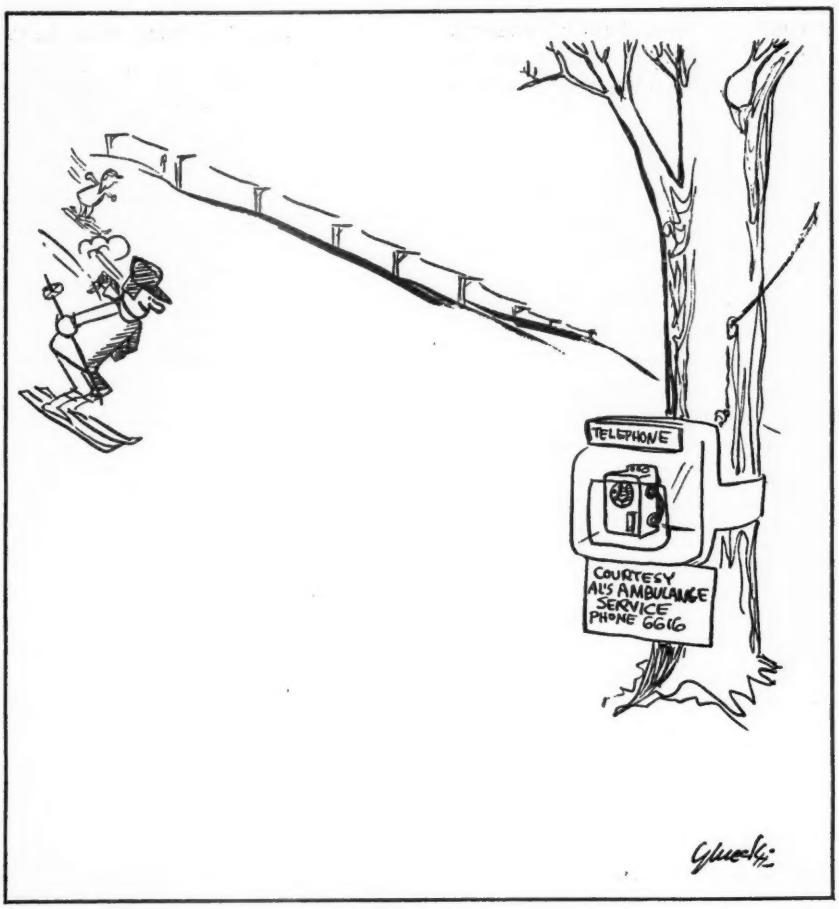
As an example, he cited changes the company asked for in cable-splicing work. Modern methods simplified the process so that men with less skill and training could do it. The company wanted the right to assign this job to less-skilled workers and demanded a flexibility clause in the contract to permit that.

The company and the union argued for two months over this request. With a strike imminent, the company finally gave up its demands, but with the understanding that the issue was not settled and would come up again.

A stiffening attitude on the part of management over its right to dictate work rules is not confined solely to large companies. Small organizations are also standing up to the unions on rights of management. For example, the owner of a six-employee Venetian blind manufacturing factory in San Francisco told this story:

> The situation regarding work rules simply was becoming intolerable; I was actually beginning to lose money. The union wouldn't allow a worker who made slats to put the finished product together, for instance. Truck loaders couldn't make deliveries. I finally told the union to let me run my shop or I'd get rid of everyone and run a one-man operation. I guess the union saw the light because I haven't had any trouble since then.

ANOTHER reason for the stronger stand being taken by employers on work rules is that technological changes are being made such as automation and



mechanization that presage a new era of fewer workers. Thus the right to determine how many workers and what classifications of workmen will be employed in future operations is looming in importance.

THERE'S more evidence of a greater spirit of unanimity among employers, a union official reported, as indicated by the inability in most cases of unions to make separate deals with individual companies within the same industry. All of which casts a shadow on the wall of unions' future. If the unions continue to buck management's fight to end featherbedding, strikes will be many and of long duration. This present trend in labor relations may mark a turning point with possible eventual victory for management in its fight to again run its business as it sees best in the interest of profit making and efficiency. At least, as another union leader remarked, "The fact that management is sticking closer together promises trouble in the months ahead."

A Practical Plan for Farm Power Sales

At the sixth annual national Electric Farm Power Conference in Phoenix, Arizona, in November, Edwin Vennard, vice president and managing director of the Edison Electric Institute, examined the problem of farm sales and what could be done about it. He said startling changes have taken place in the farm market and will continue to do so. It has grown tremendously just as has the electric industry in terms of total production. The task ahead for rural power suppliers, he pointed out, now that rural lines are largely completed, is one of increasing utilization of electricity by farms. While many farmers have increased their electric load enormously, others have not. Much of this can be attributed to outdated selling methods on the part of utilities.

Mechanization of farms and the need to up production and produce more food at less cost is a trend that spells opportunity for utilities, Vennard declared. Today a farmer often has a lot of capital tied up in his farm. He is looking for ways to derive the utmost from his investment. Electric applications that can help him do this are welcomed. And this rural trend towards the use of more electricity will intensify in the future.

Vennard stated:

> What does this mean to the power supplier? It most certainly means added load and greater opportunity to serve farm customers. The power supplier who is privileged to serve American farms is an eager partner in one of the most exciting and meaningful developments of our time. Any time any American wants to do anything bigger or better, his electric power supplier—whether it is a company or a co-operative—will be standing by ready to help in any way possible.

Vennard said that power companies have a real stake in bringing more of the benefits of electrification to America's farms. They have demonstrated their interest, too, for power companies are participating in 222 research projects covering 87 topics. In addition, there are some four hundred other company-sponsored activitives aimed toward more effective use of electric service on the farm, better land use, livestock and poultry improvements, farm community improvements, as well as rural youth development programs carried on either in part or as a whole by power companies.

There has for some time been a definite trend towards larger and fewer farms. The farmer who was once a relatively small customer today may be using many thousands of kilowatt-hours. More and more farmers have become shrewd businessmen who look into new and more efficient electrical applications for increasing their productivity and profits.

Speaking of farm load patterns, Vennard said utilities would have to watch the effect on farm load curve by the various electric applications. The price of electricity to the farmer will be affected. While farm load has doubled in the last eight years, with new applications being made, the next eight years may see an entirely different pattern emerge. Residential load is what the average farm means today, but growth in potential food factory applications may cause a reversal of this situation. Rates may have to be altered as the farmer uses more electricity for business purposes as compared with residential purposes.

Vennard said he believed rates would have to be sold to the farmer and explained in terms of pennies in relation to

what the energy can accomplish. Also the rates should be scaled so that there is always an incentive to use more current.

In regard to building system load factor, Vennard had this to say:

> Selling to build load factor is a science that involves more than the sales department. It requires a study of the system load curve and an analysis of the load characteristics of the various applications of electricity. System load curves of suppliers serving rural markets may vary widely. That task is, of course, to fill in the valleys without materially adding to the peaks. Exactly where the peaks and valleys occur, and their size, will vary from system to system.

The residential load curve for farm home use generally resembles the regular house load curve. Loads that tend to build load factor in the residential class will also improve farm load factor. One of the best of these is lighting. The average home uses 762 kilowatt-hours a year for lighting, while a light-conditioned home would use 2,000 to 2,500 kilowatt-hours. It might be assumed that farm lighting is not of the intensity it is for city residences, so this would provide a wide-open opportunity to sell better lighting to rural homes. The refrigerator and the refrigerator-freezer are also big load builders. Utilities should concentrate on selling this type of unit to farmers. For whereas the conventional refrigerator will use only 300 kilowatt-hours annually, the refrigerator-freezer will consume from 600 to 900 kilowatt-hours. Such an appliance is actually a necessity on a farm, Vennard said.

Room coolers and air conditioners which have risen in popularity are good builders of load factor in a winter peak situation. They have overbalanced the winter load in the Southwest, producing a summer peak. In a summer peak situation, Vennard said, cooling equipment hurts load factor. It can be balanced out, however, by conversion to year-round climate control. This includes electrical heating during the winter as well as humidity control summer and winter.

There is much to be done, EEI's managing director insisted, in increasing the use of electricity in farm homes. He said there is every reason to believe that a farm home, using all electricity, could consume 26,000 kilowatt-hours in addition to the use of electricity for chores. "Possibilities for load building in the farm home are great, as are possibilities in general farm electrification," Vennard declared.

Managers of electric power utilities can utilize employees and resources in such a way that electricity will be furnished in the most economical and efficient manner. There is a best way of doing everything. To make sure that all who are engaged in this business do so in the fashion that will result in the lowest overall cost of making and distributing power, Vennard suggested the following checks:

a. No duplication of facilities between suppliers.

b. Proper regulation.

c. Joint planning of system growth and facilities.

d. Sharing the benefits of co-ordination, with no one taking advantage of the other and neither taking advantage of an absent third party.

Vennard said both commercial companies and co-operatives should help each other in these endeavors and exchange information and ideas. Each would profit by this interchange of know-how.

Gas Producer Regulation and the Intrastate Market

THE record of regulatory proceedings and the pages of this and other journals have increasingly been dotted with threats by representatives of natural gas producers that, if regulation is not relaxed to the point of endorsing existing new contract price levels, gas will be sold in intrastate markets, to the detriment of interstate consumers. These warnings have become so frequent that an analysis of that possibility seems indicated.

Basically, the potential of the intrastate "threat" is a function of the ability of that market to absorb significantly increased quantities of natural gas at prices that prevail in the interstate market. A casual appraisal of the data on total volume of natural gas being consumed in intrastate markets would seem to indicate that this threat is real. For, despite the fact that the intrastate share of total marketed production of natural gas has fallen in the past ten years from 69 per cent to 43 per cent, the latter figure is still not insignificant and has been reached, not because of an *absolute* decline in intrastate demand, but rather because of the very much more rapid growth of the interstate market. For instant purposes, however, it is less the size of the total market and more the composition of that market that provides the relevant clews as to its absorptive qualities.

THAT there are significant differences in the composition of demand in the two markets may be seen from an examination of the table on page 123, which shows the consumption pattern in the United States, in the seven Southwest producing states, and in the United States excluding the Southwest. The second grouping contains a reasonable estimate of intrastate demand, while the last grouping approximates interstate usage.

These data indicate that roughly 50 per cent of interstate consumption goes to residential and commercial uses, while in the intrastate market these uses account for only 12 per cent of total demand. Furthermore, almost one-third of the total volume of intrastate consumption goes into field use and carbon black manufacture.

Let us assume, in light of these facts, that producers were to look to the intrastate market to absorb any significant quantities of new gas that were to be discovered during the next several years. The physical facts of population and climate would make it highly unlikely that residential and commercial users would find such quantities of any real use. Next, it is probably even more unlikely that such increased quantities would find their way into field use or carbon black manufacture. This is so in the former instance because field use is primarily a function of the demand for crude oil and, therefore, would tend to fluctuate more with conditions prevailing in that branch of the industry than it would with the circumstance of an increased supply of natural gas; in the latter instance, carbon black manufacture has virtually disappeared as an important market for natural gas. It is hardly likely that such use would be revitalized by increased quantities of high-priced gas.

THUS, we are led to an examination of the use of gas in electric plants, refineries, and other industrial uses as potential areas in which demand is sufficiently unsatisfied as to be able to absorb significantly increased quantities of gas at prices comparable with those prevailing for new sales of gas in the interstate mar-

ket. In such an appraisal, one important economic fact must be borne in mind: Of the three broad classes of gas use—residential, commercial, and industrial—the latter is by far the most responsive to price.

Taken as a whole, the overall level of industrial demand for natural gas is very much dependent on the relationship that exists between the price of that commodity and the prices of competing fuels. Most significant, on this score, is the fact that the price of natural gas for industrial use lies below that of competing fuel oils in only one region of the United States—the Southwest. One would expect, therefore, that in such a price situation rational industrial consumers having an option of use between natural gas and fuel oil would, at present, be consuming as much of the former as is feasible. Of course, should additional supplies of natural gas be offered to such industrial consumers, it is possible their "take" might increase, but this would result only from the *depressing* effect such additional supplies would have upon prices—an outcome not consistent with the producers' concept of a desirable intrastate market.

FINALLY, when we look to the potentialities for *growth* in the three components of industrial demand mentioned above as a possible means through which increased supplies might be absorbed by the intrastate market, we find little to justify such an expectation. There is little evidence that growth, in the near-term future, in the demand for refined products—and, hence, in the demand by refineries for fuels, including natural gas—will be of such magnitude as to offer a significantly expanded market for natural gas. While the demand for natural gas as a fuel in electric plants has been increasing in the past several years, here the price factor itself will be so important as to minimize the significance of this end-use market as an important rival to interstate sale.

It would appear, then, that the only area in which there might be significant absorption is in the category "Other Industrial Uses." This category accounts for

NATURAL GAS CONSUMPTION: UNITED STATES, SEVEN SOUTHWEST STATES,[1] UNITED STATES EXCLUDING SOUTHWEST, 1957

Type of Use	*United States*		*Seven Southwest States*[1]		*United States Excluding Southwest*	
	Volume (Billion cu. ft.)	*Use as Per Cent Of Total Volume*	*Volume* (Billion cu. ft.)	*Use as Per Cent Of Total Volume*	*Volume* (Billion cu. ft.)	*Use as Per Cent Of Total Volume*
Residential	2,500	24.3 %	379	8.2%	2,121	37.5 %
Commercial	776	7.5	168	3.6	608	10.7
Industrial						
Field use	1,480	14.4	1,230	26.6	250	4.4
Carbon black	234	2.3	227	4.9	7	0.1
Fuel at elec. plants	1,338	13.0	668	14.5	670	11.8
Fuel at refineries ..	679	6.6	532	11.5	147	2.6
Other industrial ..	3,273	31.8	1,417	30.7	1,856	32.8
Total	7,004	68.1 %	4,074	88.2%	2,930	51.8[2]%
Total Consumption ..	10,280	100.0[2]%	4,621	100.0%	5,659	100.0 %

[1] Arkansas, Kansas, Louisiana, Mississippi, New Mexico, Oklahoma, Texas.
[2] Figures may not add due to rounding.

the largest segment (some 30 per cent) of intrastate demand. In many of such uses, primarily in petrochemical manufacture, natural gas is a basic raw material and is probably less reactive to price, because of the lack of substitutes and the high value of the end product, than are the other industrial uses just discussed. No data are available which permit a determination of whether the "Other Industrial Uses" category represents unsatisfied demands sufficiently large to absorb significantly increased quantities of natural gas. One can only argue, inferentially, that this is probably not so.

THE first, and perhaps simplest, piece of evidence upon which such an inference might be based is the fact that this argument has not been made by the producers or by potential users. It has certainly not been generally argued that industrial growth in the South has been stymied by lack of availability of natural gas.

The second piece of evidence is more subtle—resting upon the price evidence which is available to us. Thus, data on intrastate prices gathered by Dr. John W. Boatwright, of Standard Oil Company (Indiana), indicate that intrastate "new gas" prices, at least through 1956, were below interstate "new gas" prices. More recently, witnesses testifying for producers in several rate cases, have submitted price data for recent intrastate sales. Here again, by and large, interstate prices tend to be higher than intrastate prices, either absolutely or because of the absence of step and favored-nation escalation provisions in intrastate contracts. *If* significant volumes of intrastate demand remain unsatisfied at the present time, one would expect these prospective users to have bid unregulated intrastate prices up to a level which exceeds or, at the very minimum, equals interstate prices.

FINALLY, it must be remembered that the reality of the intrastate alternative is dependent, essentially, upon the ability of that market to absorb the very large blocks of gas which heretofore have been taken by the interstate pipelines. While some latent industrial demand might exist in the intrastate market, it is quite unlikely that the demand of an individual industrial consumer would be large enough to even approximate the volumes of, say, a Catco contract.

It may be concluded, therefore, that the industry cannot look to the intrastate market as a significant outlet for the large volumes of gas it may wish to hold off the interstate market.

—JULES JOSKOW,

Assistant professor of economics, The City College of New York, and Boni, Watkins, Jason & Co., Inc.

Notes on Recent Publications

BUYING AND SELLING IN AN INDUSTRIAL MARKET (SOME ECONOMIC CONSIDERATIONS), by D. K. Blake, General Electric Company, Schenectady, New York.

D. K. Blake, consultant, user industry sales department of General Electric Company, states that this study, although limited in scope, should be equally helpful to the salesman and the buyer in the matter of identifying the product values in exchange for a dollar.

Of particular interest to readers of PUBLIC UTILITIES FORTNIGHTLY is an addendum, entitled "Usefulness of the Semi-Log Scale."

Mr. Blake notes that the semilog

scale is useful in studying the behavior of a factor or quantity that grows or decays in time. Many engineers, statisticians, and economists prefer this scale to the arithmetic scale because it provides a picture of growth rates with respect to time.

Mr. Blake believes that a sale and a purchase are just two aspects of one transaction and that such a transaction has both an economic impact and an economic consequence for both the buyer and the seller.

CORPORATE AID TO EDUCATION RISES 23.5 PER CENT. A survey among the nation's 1,500 largest corporations reveals that from 1956 to 1958 there has been an increase of 23.5 per cent in aid to education. This increase was made during an "off profit" year, according to Dr. Frank H. Sparks, president of the Council for Financial Aid to Education.

Dr. Sparks said, "This is encouraging evidence that the most alert business management in the world regards the financial support of higher education as of the first importance."

The greatest increase in aid to educational financing was made by the banking group, he reported. Seventeen such institutions reported amounts indicating a 210 per cent increase over the two years. Next largest were grants by 13 utilities showing a 92.6 per cent increase. Highest rate of giving to education of dollar grants in proportion to net income before taxes was in the printing and publishing industry. Five companies contributed .85 per cent of their net income before taxes to educational institutions and programs. Average rate for all companies in the 24 categories checked was .27 per cent.

Education received 28.4 per cent of the corporate gift dollar contributed for all causes during 1958, according to the 339 companies which reported their total programs in the survey. Of these companies, 33 gave more than one-half of their philanthropic budget to education. One company gave $5 million to education in 1958. Seven gave $1 million or more. Highest average gift per company was in the electrical machinery field, with 11 companies averaging $336,366 in educational grants for 1958.

Chemicals were second, 25 companies averaging $247,371 each. Tobacco companies were third, with three companies averaging $247,353 each.

Council President Sparks believes that many more companies have "gotten into the act" in financing higher education during the past two years, based upon an analysis of questionnaires returned. He said 28 companies during 1958 contributed at the rate of one per cent or more of net income before taxes to education.

The council survey, published under the title "The Upward Trend Is Stronger," has been mailed to co-operating organizations.

Other companies desiring a copy may obtain it by writing Council for Financial Aid to Education, 6 East 45th street, New York 17, New York. Price, 50 cents.

TASK FORCE EVALUATION REPORT—SMALL-SIZED NUCLEAR POWER PLANT PROGRAM is the title of a fact-filled publication on various atomic reactor concepts by the Atomic Energy Commission. The 59-page report compares the capabilities and status of the boiling-water, pressurized-water, and organic-moderated reactor concepts to the end of selecting a type suitable for immediate construction as a small-sized (5,000 to 40,000 kilowatts, electrical) civilian nuclear power station. Estimated construction and operating costs for each concept are shown, as are estimated conventional plant costs in high-cost fossil fuel areas. The reactor concept recommended for construction is a pressurized-water, light water-cooled and moderated unit employing a slightly enriched uranium oxide as fuel.

It would have a fossil fuel superheater, coupled to a standard "handbook" turbogenerator for a gross capacity of 22,000 kilowatts of electrical power. Available from the Office of Technical Services, U. S. Department of Commerce, Washington 25, D. C. Price, $1.75.

The March of Events

Alaska

New Gas Discovery

ACCORDING to the Union Oil Company of California, a gas well that came in up in Alaska has proved far more important than originally believed. On a production test recently, the well flowed dry gas at the rate of 31 million cubic feet daily.

A second well drilled a mile north flowed at the rate of 17 million cubic feet a day and a third well is to go on a production test soon.

These three wells are on the 55,000-acre block jointly held by Union Oil Company and Ohio Oil Company. They are to fulfill gas delivery commitments to Anchorage Gas Corporation which was recently granted a franchise to distribute natural gas in Anchorage and adjacent areas.

The first big discovery of a wildcat well was drilled to a total depth of 15,407 feet, making it the deepest hole ever drilled in Alaska.

California

Rate Boost OK'd

THE Pacific Lighting Gas Supply Company has won the consent of the state public utilities commission to raise its wholesale gas rates in southern California by $3.57 million annually. Higher operating costs and increased prices for gas and oil supplies purchased by the company were reasons given for upping the price of wholesale gas to the California area.

Pacific Lighting sells gas to both Southern Counties and Southern California Gas companies. These concerns, however, cannot pass along the rate hike to their consumers until they have proved the need for such an increase before the public utilities commission.

Rate Hike Suspension Asked

THE Federal Power Commission has been requested by Southern California and Southern Counties Gas companies to suspend a proposed increase in wholesale natural gas rates sought by Phillips Petroleum Company. The companies contended that the Phillips increase, along with similar hikes by other producers, would cost natural gas users in southern California an estimated additional $7.5 million a year.

Phillips sells natural gas produced in Texas which in turn supplies the two Southern California companies with more than 75 per cent of their gas. The Phillips Company, in its application to the FPC,

asked for a three cents a thousand feet increase in the field price of natural gas, effective January 1, 1960. Other producers are expected to follow suit.

The California distributing companies asked the FPC to suspend the proposed increases for the full five-month statutory period, meanwhile putting the burden on Phillips Petroleum Company of justifying the requested price boosts. The two Southern California companies serve 2.5 million customers in the state.

High Court Will Act in MTA-Union Case

THE supreme court of California has agreed to accept jurisdiction in an appeal made by the Brotherhood of Railroad Trainmen from a Los Angeles superior court ruling that employees have no right to strike against the Metropolitan Transit Authority because it is a state agency.

By the court's action the normal approach of first appealing to the district court of appeals was bypassed, thus saving considerable time. The "right to strike" issue has been blocking agreement between the Metropolitan Transit Authority and two groups of union employees on new labor contracts.

The BRT union is contending that denial of its right to strike deprives it of a normal economic pressure in collective bargaining with MTA. Unable to reach an agreement on contract terms, the BRT has appealed to Governor Brown to appoint a fact-finding committee to study the collective bargaining impasse and recommend solutions.

Georgia

REA Co-op Bill Stalled

A BILL in the Georgia legislature, Senate Bill 30—has resulted in a dispute between the Georgia Electric Membership Corporation and the Georgia Municipal Association. The measure would permit REA co-ops to operate inside cities where their lines had to be installed before once-rural areas were annexed by urban development.

In return the co-ops have agreed to make a contribution to the expenses of the city in which they are allowed to serve such annexed areas, in an amount equal to 3 per cent of the revenue from the electric energy sales in the areas.

The bill has been in the hands of the legislative committee for almost a year, declared D. M. Pollock, president of the Georgia Electric Membership Corporation, and since then no proposal has been made which could possibly be the basis for a conference with the Georgia Municipal Association.

Consequently, the co-operatives have refused to compromise and their group has elected to push for the bill's passage exactly as it is now written.

Maryland

Rate Cut Asked

PEOPLE'S counsel has called for lower rates and refunds of almost $2.5 million from the Baltimore Gas & Electric Company, contending that the company is overcharging customers. He urged the state public service commission, in a special hearing, to reduce the rates it had authorized in August, 1958.

Company attorneys argued, however, that Baltimore Gas & Electric's earnings and rate of return were in accord with orders of the public service commission and that the commission was without

power to order a refund. In supporting their contention that the commission could not order refunds, they adduced some 25 legal cases.

People's Counsel McQuaid said the company was charging rates that yielded a return well in excess of the 6.25 per cent authorized by the commission and it thus was illegal. He asked the commission to take into account the earnings the rates have produced. The commission has taken the case under study.

The public service commission now has before it a similar issue with regard to earnings of the Chesapeake & Potomac Telephone Company.

Michigan

Asks OK on Pipeline Expansion

MICHIGAN WISCONSIN PIPE LINE COMPANY, an affiliate of American Natural Gas Company, has sought permission from the Federal Power Commission to expand its pipeline facilities to increase its total capacity by 333 million cubic feet of gas daily in 1960. The cost of the expansion program is estimated at $73.5 million.

Altogether there are three separate pipeline expansion projects that Michigan Wisconsin wants to proceed with. One of them, a plan to import gas from western Canada, has already been approved by the FPC. The peak capacity of the company's system will be increased to 1.47 billion cubic feet of gas a day, when all three pipeline projects are in operation.

The largest of Michigan Wisconsin's new programs is the construction of 568 miles of pipeline "loops" parallel to its existing pipeline to enable it to take 100 million cubic feet more gas per day from the Laverne gas field in Oklahoma. Another project is an OK to purchase 75 million cubic feet of gas a day from Northern Natural Gas Company which will build facilities to deliver the gas to Wisconsin's pipeline system which is near Janesville, Wisconsin.

Nebraska

Power Truce Sought

TWENTY-FIVE rural districts have a suit pending in Platte county district court seeking to upset contracts between the Nebraska Public Power System and Consumers Public Power District. A power supply committee composed of 27 rural public power districts recommended a rate review with resulting rates retroactive to September 1, 1959, even though the NPPS is no longer legally entitled to such a benefit.

The committee, while denying that the dispute is mainly a procedural difference as contended by NPPS, offered to compromise and settle the matter.

The rural districts reiterated their stand that NPPS's proposed increase in rates is unreasonable and unjustified. But the power committee has not been able to persuade NPPS to conduct a rate review in accordance with terms of the requirements contract to determine what, if any, rate increase is proper.

The "rurals" are willing and have actually made a number of concessions in order to work out an agreement. One concession would let stand a provision whereby Consumers can effectively block the option which the rurals have to purchase the facilities of NPPS under certain conditions.

Oregon

State OK's Dam Permit

THE Oregon Hydroelectric Commission has voted to grant Portland General Electric Company a preliminary permit to build a $71 million Round Butte dam on the Deschutes river near Madras. The permit does not involve a construction license—it is merely a priority permit.

The company has also filed for a license with the Federal Power Commission. It has two years to apply for a state license. However, if it gets an FPC license, it might go ahead without a state license.

The two members of the commission who voted for the preliminary permit made it clear that their action did not imply they are in favor of the dam. They claimed that there are a lot of questions yet to be answered, such as the problem of migratory fish. The granting of the permit does not bind the commission in any way to issue a license.

Texas

Lower Gas Rate Plan

HOUSTON NATURAL GAS CORPORATION has suggesed to the city council that it be permitted to set up winter and summer promotional gas rates which would result in leaving the $1.60 monthly minimum residential rate unchanged. The company had asked that the minimum bill for less than 40 cubic feet be increased to $1.75.

Under the new proposal the minimum bill to small commercial customers of $1.90 would also remain unchanged. However, promotional rates to stimulate use of gas for air conditioning in summer, and to offset a winter promotional rate council granted to Houston Lighting & Power last year, were sought.

The company wanted 7.9 cents per one hundred cubic feet when gas consumption ranged between 400 and 5,600 cubic feet, both winter and summer. The next 1,000 cubic feet, now costing 7 cents per one hundred cubic feet, would be increased to 7.3 cents a hundred in the winter and reduced to 3.5 cents in the summer. Average above 16,000 cubic feet would be priced at 4.5 cents (winter) and 3.5 (summer).

Washington

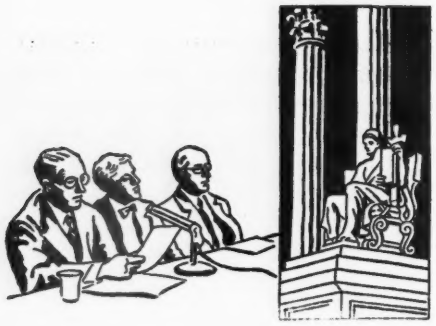
PUD's Power Move Halted

A STATE supreme court ruling in December prevented the Thurston County Public Utility District from trying to raise $100,000 by taxation in order to go into the power business. In a 5-to-4 decision, the high court upheld an injunction which was issued by Thurston county court last November.

The PUD was planning to obtain $100,000 by taxation and use the money as the initial costs of taking over electric properties of Puget Sound Power & Light Company.

The supreme court, however, held that the PUD had failed to give proper notice to the public of a PUD meeting at which the tax levy and the budget for 1960 were adopted. Said the court, "The policy question of whether the public utility district should acquire . . . the properties of the Puget Sound Power & Light Company is no concern of the courts."

It said the only question was whether the PUD had complied with legal requirements for levying the tax and adopting the budget. The court found that the PUD had told the public no taxes would be levied, but nevertheless proposed to levy new taxes and boost the budget.



Progress of Regulation

Trends and Topics

Abandonment of Service Operated at a Loss When Service Was Profitable in Past

A COMPANY which is compelled to continue operation at a loss is unconstitutionally deprived of property (251 US 396, PUR1920C 579). Acceptance of a charter does not obligate a company to continue operation at a loss (264 US 79, PUR1924C 407). These fundamental principles, stated long ago by the Supreme Court, still govern when service abandonment is proposed.

Regulatory agencies weigh evidence as to present and prospective revenues and expenses; their decisions usually rest upon future prospects as indicated by such evidence. What if a company has earned plenty in past years?

Past Profits Belong to Owners

Civic leaders and representatives of various communities in a recent case before the Connecticut commission opposed the discontinuance of transit operations by The Connecticut Company. They asked the commission to take into account profits of the company in former years. The commission, however, said that this claim ignored "the fundamental principle that former profits, if any, are the property of owners of the enterprise, and cannot be the basis for evaluation of a company's current and future operating experience." The commission authorized discontinuance on the ground that losses from continuance of operation would result in confiscation of property without due process of law (30 PUR3d 428).

Loss Sustained for Short Time Is Insufficient Proof

The Maine commission denied a petition by a water company for authority to discontinue service although an operating loss had been shown. The commission said that evidence relating to past income and expense was material only so far as it tended to show the future prospects. The question was whether there was a reasonable certainty that this company's operations could not be successfully carried on.

The fact that a loss was incurred in the past year was not alone sufficient.

Abnormal expenditures had been made in that year, and if they had been spread over a period of years there would have been no loss in any one year. There was no evidence that future operating expenses would approach the figure for that year.

The commission said that in determining whether a utility is receiving a reasonable return in a rate case a reasonably long period must be taken rather than the result of operation in a single year, and the same principle was equally applicable in this case involving service discontinuance (54 PUR NS 196). The question of past losses as a factor affecting the rate of return in a rate case is discussed in *"Rate of Return,"* by Ellsworth Nichols, page 420.

Contractual Obligation Considered

The South Carolina commission, in ordering a company to restore street railway service which had been discontinued without commission authorization, expressed views on the question of earnings in the past. Columbia Railway, Gas & Electric Company had, according to the commission, obligated itself by contract to render service, and the commission said that losses reflected in the company's statements for the past year or two did not alone relieve the company of its obligation to operate the streetcar service. There was no showing made that over the entire period of the operations of the streetcar service such service resulted in a loss to the company.

The commission referred to the decision by the U. S. Supreme Court in the Columbus Railway, Power & Light Company case (PUR1919D 239) in which, said the commission, the acceptance of a "charter" was held to constitute a valid and binding contract. The commission said that in that case the principle was stated that the company would not be relieved of is liability to operate unless it was shown that operation "over the entire period" would result in a net loss. This test appeared to the commission to be "fair and just and reasonable." There was no evidence that operation of the streetcar department throughout the life of the franchise had been unprofitable (PUR1927D 684).

The U. S. Supreme Court, in the Columbus Railway, Power & Light Company case, held that a street railway company was not absolved from its obligations under its municipal franchise by reason of increased operating costs and decreased net revenue due to war conditions and to an increased wage scale fixed by the National War Labor Board. The company was bound by a municipal ordinance granting a 25-year franchise which it had accepted. The court said it was undoubtedly true that breaking out of the first World War was not contemplated, but there was no showing that the war or the increased wages necessarily prevented performance of the contract. There was no showing that performance of the contract "taking all the years of the term together, will prove unremunerative" (PUR1919D 239).

Review of Current Cases

Reserve for Tax Deferral Included in Rate Base

THE Florida commission denied a petition by the city of Tallahassee and other municipalities for reconsideration of a recent order (30 PUR3d 492) granting a rate increase to Southeastern Telephone Company. With some modifications, the commission approved proposed rate schedules designed to produce the revenues previously authorized.

The municipalities complained that the commission failed to deduct the company's reserve for deferred income taxes from the rate base. The commission pointed out, however, that it has treated tax deferrals in the same way in a number of cases in recent years, and it has taken the position that such deferred taxes are merely a deferred tax liability and not a tax saving. No evidence was presented to make the commission abandon this view. Moreover, the treatment accorded the reserve for deferred taxes should have been anticipated by the petitioners, and the question should have been raised during the hearings on the company's application.

Debt Ratio at End of Period

It was further contended that the commission should have used the debt ratio which the company had contracted for in the future. The only legally sound practice, said the commission, was to use the end-of-period debt ratio, just as all other operating statistics during the test period were considered. If a current debt ratio is to be used, then current operating figures must also be used. But this would be impracticable because of the time necessarily consumed in a rate proceeding.

Year-end Investment

Finally, the petitioners urged that average investment should have been used rather than year-end figures. Again, it was pointed out that the whole case was predicated on year-end figures and that the petitioners, who appeared at the hearings, had made no objection on this point at that time. The objection, therefore, came too late in the instant reconsideration proceeding, even assuming that it had merit. Actually, the commission found nothing in the record to justify any other than a year-end approach. *Re Southeastern Teleph. Co. Docket No. 5364-TP, Order No. 2824, November 12, 1959.*

Uncollectibles Written Off to Surplus in Telephone Rate Case

THE Georgia commission authorized Darien Telephone Company, Inc., to increase its rates for rural subscribers sufficiently to offset a loss in revenues occasioned by the conversion of rural rates from a mileage basis to a flat rate. The commission thought this adjustment, though a smaller increase than was requested, would enable the company adequately to meet its REA debt service requirement. In a separate application, the company is seeking authority to borrow $560,000 at 2 per cent, for the purpose of converting to dial operation and retiring debt.

Expenses, as shown by the company, contemplated charging half of the principal officer's salary to maintenance ex-

pense and half to commercial, general, and other expense. Since this officer would necessarily devote some of his time to the supervision of plant construction in the dial conversion program, his salary was required to be charged 30 per cent to maintenance expense, 40 per cent to commercial and general expense, and 30 per cent to capital expense in the plant accounts. This allocation would accord with the levels estimated by the REA for these classifications of expense.

According to the company, most of the recorded customer and agent accounts receivable were uncollectible. The commission ordered that these uncollectibles be written off immediately by means of a direct charge to earned surplus. *Re Darien Teleph. Co., Inc. File No. 19334, Docket No. 1482-U, November 10, 1959.*

No Legislative Violation of Contract

A NEW YORK court upheld a statutory amendment requiring commission approval before a railroad redevelopment corporation may increase fares. Two railroads sought a declaratory judgment that this amendment to an incorporation statute was unconstitutional, alleging that it impaired the obligation of a contract and deprived them of property without due process. The original statute exempted fare increases by railroad redevelopment corporations from suspension by the commission prior to a determination of unreasonableness.

The statute, which is a general incorporation statute, is not a contract, said the court.

The state makes no pledge that its charters will remain inviolate. The amendment was within the police power of the state. *Pennsylvania R. Co. et al. v. State of New York, 298 NYS2d 192.*

Conversion of Refund Agreements into Stock Disapproved

THE California commission denied an application by a water company for authority to issue common stock on a dollar-for-dollar basis in exchange for existing and future refund agreements. The conversion would permit the company to obtain long-term financing for construction.

Of approximately $228,000 of refund contracts proposed to be converted, $188,000 is being acquired by a third party for about $57,500 and would be exchanged for $188,000 par value of the company's common stock. The other $40,000 of refund contracts are held by associated interests of the company. The cash value of the contracts under the company's filed main extension rule is considerably less than their unpaid balance.

The commission found that a conversion on the proposed basis would be contrary to the company's extension rule which provides for the termination of revenue refund contracts on the basis of their present worth. It would be adverse to public and customer interests and incompatible with the trustee concept of a public utility. The commission declared that it could not lend its aid to any transaction which involves trafficking in the obligations and securities of a public utility. *Re La Mirada Water Co. Decision No. 59356, Application No. 41126, December 8, 1959.*

Gas Rates Increased Subject to Later Investigation and Hearings

ALABAMA GAS CORPORATION has obtained a rate increase from the Alabama commission, covering an increase in the cost of gas as well as other increases in the cost of service, resulting in a rate of return of 5.9 per cent on the reasonable value of property devoted to public service. As the supply rate for pipeline gas, now being paid by Alabama Gas, is subject to final determination by federal authority, the company will be required to pass on to its customers any subsequent refund that it may receive. A further rate adjustment for Alabama Gas may be necessary, depending upon the final ruling.

Because of the company's need for a rate increase, the commission decided to make its order effective immediately, even though at the conclusion of the proceedings two cities requested the opportunity subsequently to present additional testimony. In order to permit all interested parties to be heard, the case will be set for investigation within several months. If, after such investigation, the company's rates appear excessive or inadequate, appropriate adjustments will be made.

Rate Base Adjustments

In arriving at the reasonable value of the company's property devoted to public service, the commission included plant under construction, noting that interest during construction had not been charged to required operating revenues. Purchased gas expense, as an item in working capital, was reduced to exclude any allowance for that portion of purchased gas ultimately sold to industrial consumers. An adjustment of 50 per cent of both federal and state tax accruals was also made, though a lag in other tax payments was not taken into account.

In calculating net income, a loss on merchandising and jobbing activities was eliminated. Also eliminated was interest income on commercial paper executed in connection with these merchandising activities. *Re Alabama Gas Corp. Docket 14790, November 30, 1959.*

Accrued Officers' Salaries Treated as Operating Expense

THE Louisiana commission held that officers' salaries which had been accrued by a gas company but which had not been paid should be treated as an operating expense. However, the income tax allowance was reduced accordingly.

The company kept its books on a basis that was more economical from an income tax standpoint. Salaries of general officers, amounting to $5,600, had been claimed as an operating expense although not actually paid. Federal income taxes amounting to $1,685.86 had been paid, and the officers' salaries had not been shown as an operating expense for tax purposes. The company claimed both the salaries and the income tax as operating revenue deductions in the rate proceeding.

The commission pointed out that if it were to allow a deduction of $5,600 for salaries that had not been entered on the books, it could not at the same time allow a deduction for income tax that would not be assessed if the salaries had been paid. The company's request for a rate increase was denied. The return of 7.88 per cent being earned was considered reasonable and adequate. *Ex Parte Evangeline Gas Co., Inc. Docket No. 8008, Order No. 7953, November 10, 1959.*

Telephone Company's Denial of Leased Wires Justified

THE Louisiana commission held that a telephone company was justified in refusing to lease 21 lines to an electric supply company. The supply company proposed to use the lines to furnish an interoffice communication system to a steamship company. The evidence showed that the communications system would contain a number of foreign attachments in violation of the company's tariff, which prohibited the attachment of any equipment, apparatus, circuit, or device not furnished with the telephone company's facilities.

The commission also pointed out that to grant the supply company's request for an order requiring the telephone company to lease the lines would put the supply company, which was a nonregulated industry, in competition with a regulated utility. *Electronics Industries, Inc. (Audiotronics Supply Co. of New Orleans), Docket No. 7789, Order No. 7964, November 10, 1959.*

Airport Limousine Service to Three Hotels Not Discriminatory

THE Utah supreme court held that the commission had properly designated a firm providing limousine service from an airport to three downtown hotels for four airlines a contract carrier, overruling a contention that the transportation was actually common carriage under the guise of contract carriage, since the passengers traveling to and from the airport were part of the general public, and that the airlines had no authority to contract for such transportation.

The commission first examined the limousine operation to determine if it fell within the taxicab exemption from regulation. It did not, because the company used equipment of a special character adapted to limousine service, consisting of seven-passenger autos with a substantial luggage capacity. It carried on its operations solely upon its own schedules and routes, including the points of pickup and delivery, and was not subject to the call, direction, or control of individual passengers as are taxicabs.

Contract Carriage

With respect to the type of carrier, the commission noted that the distinguishing characteristic of a contract carrier is that such a carrier renders a transportation service only to specific parties with whom it has contracted. The commission knew of no reason why the airlines involved could not contract with the carrier to render lawful service to third persons designated as beneficiaries of the contract. The passengers and employees contracted for were an identifiable group for whom the airlines have a legitimate interest to provide safe, convenient, and efficient transportation to and from the airport.

The court pointed out that the contract did not purport to endow the carrier with the necessary authority to perform the service. If it did, the intent to do so would be futile. It simply required the carrier to furnish the transportation and imposed upon it the responsibility of procuring any permit or authority necessary to fulfill its obligation.

Discrimination

Thwarted in its efforts to establish commission error with reference to the contract carrier designation, the plaintiffs

advanced the argument that the designation of the three hotels as the points of pickup and delivery was unjustly discriminatory because there was no reasonable basis for selection of those particular hotels to the exclusion of others in the city. On the surface, noted the court, it would seem fair and proper to all concerned for the limousines to pick up or deliver passengers at any hostelry requested by them upon the route of the limousine or in the downtown area. But there must be a limitation somewhere to the stops required. There could not be individual service to every city hostelry.

Therefore, the convenience of the passengers and the hotels had to be sacrificed to some extent in the interest of the economy and expedition of operation of the carrier. Such limitations usually seem arbitrary to those excluded.

The evidence showed that the three hotels were in competition with each other and were located at opposite ends of the downtown area of the city. The commission's order was not so capricious or arbitrary as to warrant judicial interference. *Realty Purchasing Company et al. v. Utah Pub. Service Commission et al. 345 P2d 606.*

Microwave Exception in Bell Interconnection Tariff Disapproved

THE North Carolina commission disapproved that portion of Southern Bell's proposed interconnection tariff which had provided that wire circuits owned by railroads could continue to be connected with local Bell facilities for railroad business so long as no more than 50 per cent of a given wire circuit from one terminal to another was supplanted by microwave.

Southern Bell had also sought to forbid interconnection by microwave except in cases of emergency.

The Southern Railway Company, which desired the continued privilege of connecting any system owned by it with Bell's local exchanges, protested vigorously. The commission adhered to a stand midway between the two extremes—disallowing interconnection of any kind between the railroad's communications system and that of Bell except in cases of an emergency, as defined by it.

The railroad had enjoyed interconnection privileges since 1924, under a contract with Bell, which was terminated in April, 1959. Bell's tariff incorporated this special treatment for railroads by reference to the contract, citing, as the reason, that the railroads had originally built up extensive wire facilities along their rights of way to operate their business at a time when Bell did not or would not furnish adequate service and that, as a recognition of this extensive investment, Bell should provide interconnection for exchange in toll service for these facilities.

Preferential Treatment

It appeared to the commission that the part of Bell's tariff pertaining to railroads was unreasonably preferential to railroads, in view of the rapid development of microwave facilities by other right-of-way utilities. It further appeared that to decide that existing interconnection privileges were to be terminated when facilities other than wire comprised more than 50 per cent of the circuits would result in an unwarranted retardment of the development in use of microwave.

The commission chose to place all right-of-way companies on the same footing in the future use of technological develop-

ments in communication. As a matter of principle, it did not find that there was any vested right or equitable estoppel involved in the case in so far as the discontinuance of the contract for interconnections for the ordinary business of the railroad was concerned. The relationship was one of contract providing for termination exactly as it was terminated. The investment in wire or microwave by the railroad could not be said to have been made in reliance on the contract. On the contrary, the contract was in recognition of such facilities as they existed.

Emergency Use

Although the commission did not feel there was any present justification for allowing unlimited interconnection and toll service when other right-of-way companies did not possess the privilege, it believed it reasonable for all right-of-way companies to have the privilege of interconnecting private communication facilities with those of Bell in cases of unforeseen circumstances which called for immediate action by duly authorized employees to effectuate continuity of service and preserve life and property.

Bell's proposed tariff, in the commission's opinion, constituted nothing more than a compromise effort to soften, in some respects, and to gradually eliminate, in others, the preferential treatment accorded railroads. The commission felt that unreasonable, preferential, and discriminatory treatment is not properly to be eliminated by degrees. It is either present or not present and, if present, must be eliminated directly. *Re Southern Bell Teleph. & Teleg. Co. Docket No. P-55, Sub 239, November 23, 1959.*

Incidental Duplication of Facilities No Bar to Water Plant Construction

A KENTUCKY appeals court upheld a certificate grant notwithstanding an incidental duplication of facilities. The commission had authorized the city of Newport to construct a new water plant large enough to supply its own needs and the entire requirements of another municipality to be served under a long-term contract. The city of Covington had been furnishing one-half of this municipal buyer's water supply. Protesting the certificate grant to Newport, it took the position that the project would result in a duplication of facilities contrary to the public interest.

While Newport doubted the commission's jurisdiction over a city water plant, it urged in any event that the incidental resultant competition with Covington was not controlling.

The court sustained the commission's jurisdiction to issue the certificate. It noted, however, that commission approval for the erection of a city water plant is fraught with many difficulties since the commission has no jurisdiction over rates, services, or contracts of the utility and because, as in the instant case, several classes of water consumers with conflicting interests may be involved.

Nevertheless, the court concluded that the incidental and limited duplication of facilities, which the commission had found to exist, was not so substantial as to make the new construction contrary to the public interest. The public convenience and necessity greatly outweigh this collateral objection, it was held. *City of Covington v. Kentucky Pub. Service Commission, 327 SW2d 954.*

Record of Hearing Essential to Jurisdiction to Enter Order Revoking Certificate

THE Arizona supreme court ruled that the commission had no jurisdiction to enter an order revoking a certificate, since it had failed to make a record of the hearing in the proceeding. An Arizona statute requires the commission to make a "complete record of all hearings." This includes a proceeding for the revocation of a certificate, said the court, and a failure to comply with this requirement is not a mere technical omission but goes to the heart of the power to issue an order. Reference was made to the DeConcini case, recently reported in 30 PUR3d, at page 447.

No record was made of the hearing in the case of a motor carrier whose certificate was revoked, nor was notice served upon him. The commission, as then constituted, later recognized that its revocation order was based upon a mistake and formally vacated it. In a subsequent proceeding in which the carrier sought to transfer its certificate, the commission also expressly ruled that the certificate had not been lawfully canceled by its vacated order.

Following a change in the commission's membership, however, the majority held that the certificate had been canceled and refused to approve the proposed transfer.

The carrier brought certiorari to the supreme court. The court held the revocation order void on the ground of failure to make a complete record of the hearing. The court rejected a contention by the commission that certiorari was not available because the carrier had a remedy before the superior court to set aside the order. Since the order was entered without jurisdiction it was subject to collateral attack. Nor did the carrier waive his right to certiorari by invoking the additional jurisdiction of the superior court. *Dallas v. Arizona Corp. Commission, 346 P2d 152.*

Prior Rights Not Terminated by Grant of Additional Authority

THE West Virginia supreme court of appeals reversed a commission order directing a motor common carrier to cease and desist from operation under a certificate the commission had held null and void. The original certificate had been issued in 1942 and had authorized the transportation of petroleum products for distances not in excess of 100 miles. The certificate was made effective until a prohibition imposed upon railroads by the Office of Defense Transportation was removed and until the authority granted was modified or canceled by a commission order.

Subsequent modification of the certificate authorized the same transportation for distances not in excess of 200 miles in lieu of the 100-mile restriction. The modification order provided that the certificate rights would end sixty days after the termination of the war or upon an order of the Office of Defense Transportation canceling or modifying its rail prohibition order.

The commission had determined that the carrier involved had been operating under a certificate which was null and void, because the authority had been terminated sixty days after the end of the war as provided for in the amended certificate. It had ordered the carrier to

cease and desist from continuing operations.

Where the language of a commission order is clear, not ambiguous, pointed out the court, it will not be construed or interpreted. Its literal meaning will be given effect.

There was no conflict, no ambiguity, in granting an "in lieu authority" to terminate upon the happening of an event. That, however, would not necessarily terminate prior rights and authority, especially where such prior rights and authority were not matters before the commission, on application or otherwise.

It was clear to the court that the only authority terminated by the happening of the events mentioned in the amended certificate order was the additional authority to transport the named products distances between 100 and 200 road miles. The original authority remained. *Coastal Tank Lines, Inc. v. Hutchinson et al. 110 SE2d 735.*

Separation of Gas and Electric Operations Approved Together with Security Issues

In keeping with regulatory policy, the Massachusetts commission authorized the separation of Lynn Gas & Electric Company into two separate utilities. The gas properties and operations are being transferred to the newly formed Lynn Gas Company, after which Lynn Gas & Electric will become Lynn Electric Company.

In view of the location of gas and electric structures at the plant, a property division can readily be made. Personnel will be divided between the gas company and the electric company on a functional basis, with a minimum number of jointly paid employees. The separation will involve no change in rates or service. It is an initial step toward consolidation of the Lynn Gas & Electric operations with those of affiliated companies serving contiguous territories, with the prospect of eventual operating and financial economies.

Capitalization on Property Ratio

Lynn Gas will issue stock to the stockholders of Lynn Gas & Electric. After the separation each 10 shares of the presently outstanding stock of Lynn Gas & Electric will be represented by three shares of the capital stock of Lynn Gas and seven shares of Lynn Electric stock. This comports with the relative net plant investments, approximately 30 per cent gas and 70 per cent electric.

The plant investment and other segregated asset accounts will be allocated in accordance with the company's books, while other asset accounts will be equitably divided. Cash will be divided as a balancing item. Liability accounts will also be allocated according to the company's books. Accounts representing stock and debt will be divided so that after the separation the capitalization of the two companies will be approximately proportionate to net gas plant and net electric plant.

The necessary issuance of stock was authorized, together with refunding notes for which exemption from competitive bidding requirements was granted. *Re Lynn Gas & E. Co. et al. DPU 13085, December 14, 1959.*

Existing Carriers' Prior Rights Upheld against Proposed Competitive Service

THE Utah commission denied an application filed by Garrett Freightlines, Inc., for authority to provide intrastate service over specified routes in Utah in connection with its interstate service in the state. The proposed service would compete sharply with existing carriers.

A number of witnesses testified in favor of the applicant, tending to show that time in transit is an important element in competition between shippers in the area. Despite this testimony, the commission could not find that the public convenience and necessity required the proposed service. The mere convenience to certain shippers does not establish public necessity and convenience, it was pointed out. Public convenience and necessity are definite needs of the general public for service where no reasonably adequate service exists. The evidence did not show that the general public required the proposed service.

Single Line Service

Garrett Freightlines stressed the point that its service would be rendered by a single line carrier without interchange with other lines. Although the commission recognized advantages in this service, such a development carried to its logical conclusion would result in the elimination of most of the truck lines which have operated in the state for many years and provided the public with a vital means of transportation.

In deciding this point, the commission took into consideration the existing transportation facilities, the investment of existing carriers, the services they render, the continuing need for such services, the effect that a new competitor would have upon such services, and the effect of a new competitor upon the economic and industrial development of the territory. There must be long-range planning for the protection and conservation of carrier service so as to insure economic stability and continuity of service. The rights and duties of existing carriers operating reasonably, adequately, and efficiently are not lightly to be interfered with or subjected to needless competition, said the commission.

It was not shown that existing service was inadequate, though one carrier operated three times a week rather than daily. The commission thought it reasonable to assume that if and when business warrants daily service, the carrier will provide it. At least it should be allowed an opportunity to do so. *Re Garrett Freightlines, Inc. Case No. 4001-Sub 2, September 30, 1959.*

Transit Certificate Contracts against Public Policy

THE New York city municipal court granted the defendant's motion for summary judgment in an action brought by the transit authority for damages for breach of contracts entered into by two bus companies with a transit company. The transit company had agreed to withdraw opposition to the bus company's certificate applications in return for certain monetary payments to it.

No private agreement with respect to the issuance of a certificate can be binding, held the court. New York state controls common carriers for the general protection and safety of the public. The state, through the legislature, requires transpor-

tation corporations to secure certificates, and authorizes the commission to grant such certificates after a hearing upon notice. Therefore, the contracts were illegal, void, and against public policy in that they tended to restrain natural rivalry and competition, to the disadvantage of the public.

In addition, the agreements were void because they violated a municipal ordinance vesting exclusive power in the municipality to grant franchises or rights or make contracts providing for or involving the occupation or use of any of the city's streets.

The bus companies contended that the result of the contracts was to assist it in the pursuit of its business objectives. The end result, held the court, is not the test of the legality of such an agreement. The selection and maintenance of a route for public transportation are based only upon public advantage and cannot be the subject of a private agreement. *New York City Transit Authority v. Jamaica Buses, Inc. 192 NYS2d 72.*

Injunction against Co-operative's Ultra Vires Acts Reversed

THE Florida district court of appeals reversed a temporary injunction which had been issued against an electric co-operative. The action had been brought by an electric company, which held a non-exclusive franchise to serve the area in question, alleging that the co-operative had violated a statute prohibiting it from selling electricity to persons receiving service from a utility.

Only the state may invoke appropriate judicial remedies for an abuse or violation of corporate or franchise authority, pointed out the court. Private parties or corporations may not seek an injunction against alleged ultra vires acts of a corporation.

The electric company had argued that the statutory prohibition evidenced an intention of the legislature to prohibit competition.

If the state legislature had intended that, answered the court, it could easily have said so. The prohibition against co-operatives selling energy in areas where persons received adequate service from a utility was merely a detailed grant of authority to co-operatives in a special incorporation statute. The electric company could not obtain injunctive relief for acts alleged to be in excess of the co-operative's corporate authority. *Withlacoochee River Electric Co-op., Inc. v. Tampa Electric Co. 115 So2d 9.*

Factual Issue Blocks Summary Judgment in Demurrage Case

A FEDERAL district court overruled a carrier's motion for summary judgment in an action to recover demurrage charges, in view of the legal effect of the consignee's defense that the carrier had interfered with unloading operations. Under applicable tariff provisions the carrier must collect demurrage charges for failure of the shipper or consignee to unload cars promptly, unless bad weather or the carrier itself prevents unloading. An effective defense in the present case could

not be made on the bad-weather ground since no claim for relief, a condition precedent, had been made within thirty days after the date of the demurrage bill.

But the consignee claimed that the carrier's employees had moved the cars from their loading spot and thereby prevented unloading during the 48-hour "free time" allowed by tariff. This contention raised an issue of fact which would have to be determined in a trial of the case. It is not the function of a court, it was pointed out, to decide disputed factual issues in passing upon a motion for summary judgment. The court must determine simply whether such issues exist, viewing the case in the light most favorable to the party opposing the motion. *St. Louis, Southwestern R. Co. v. Mays, 177 F Supp 182.*

Other Recent Rulings

Telephone Exchange Sale. The Illinois commission approved the sale of the telephone plant at an exchange where, from the standpoint of geographical propinquity, the purchasing company's system could better integrate the exchange, the purchase price was fair and reasonable, the purchasing company's financial condition was sound, its management was experienced and capable and progressive and had evidenced plans to convert the exchange to dial operation, and adequate provision had been made for relocation of present employees. *Re Illinois Bell Teleph. Co. No. 46116, October 20, 1959.*

Managerial Prerogative. The Massachusetts commission approved a transit company's exercise of managerial prerogative in not proposing a rate increase for outlying territory though nearby zone rates were raised, since there was no evidence that the company's policy would result in unreasonable discrimination. *Re Holyoke Street R. Co. DPU 13042, October 21, 1959.*

Specialized Carrier Service. The New York commission granted an extension of operating rights to a motor carrier serving garment industry subcontractors where the service was of a specialized nature not available from other certificated carriers, notwithstanding previous operation without authority by the applicant. *Re Goldman (Star Garment Delivery), Case MT-6949, October 21, 1959.*

Competitive Bidding Waived. The Massachusetts commission authorized a gas company to issue $2 million of 5½ per cent bonds for private placement, waiving the competitive bidding requirement, in view of the company's substantial effort to secure a sale at the lowest possible rate and considering the relatively small size of the issue and the expense and delays inherent in a public offering. *Re Brockton Taunton Gas Co. DPU 13082, October 22, 1959.*

Current Value Adjustment. In determining a rate base for a telephone company, the Minnesota commission increased the depreciated gross book cost of plant to reflect current value, including adjustments for plant additions and the various government indices that point out the inflationary trend during recent years. *Re Viking Teleph. Co. M-4580, October 26,*

1959, Re Pioneer Northern Teleph. Co. M-4583, November 2, 1959.

Compensatory Rates Exempted. The Connecticut commission exempted specified commodities from its general rate stabilization order so as to prevent a loss of business from state motor carriers to interstate carriers, upon a showing by petitioning carriers that their established rates for such commodities were compensatory and reasonable. *Re Investigation and Stabilization of Rates of Motor Common Carriers, Docket Nos. 9652, 9652-8, 9652-16, November 3, 1959.*

Operating Rights Granted. The New York commission granted a motor carrier operating rights in a specified area even though other carriers could adequately handle all available business, in view of the fact that the requested authority was contained in a previously valid certificate purchased by the carrier but for which transfer approval had not been timely sought. *Re Plattsburg Moving & Storage Corp. Case MT-7970, November 9, 1959.*

Service Area Not Exclusive. The North Dakota commission authorized a telephone co-operative to construct lines and serve its members located within the service area of another co-operative where the latter's territorial rights were not exclusive under the terms of its certificate and where the proposed new lines would not duplicate others or otherwise interfere with any existing service. *Re Burlington Highlands Mutual Teleph. Corp. Case No. 5933, November 9, 1959.*

Debt Ratio Supports Bond Issue. The District of Columbia commission found that a pro forma debt ratio of 55.6 per cent, and a debt service coverage of 3.67 times before income taxes, were reasonable and supported a bond issue proposed by an electric company. *Re Potomac Electric Power Co. PUC No. 3627, Formal Case No. 470, Order No. 4588, November 16, 1959.*

Boiler Fuel Gas Sale Disapproved. The Federal Power Commission declined to authorize El Paso Natural Gas Company to supply a substantial quantity of boiler fuel gas to an electric company in Los Angeles, notwithstanding a contention that it would help alleviate the city smog problem, but sale of the gas was authorized on condition that it be supplied to several gas-distributing companies in the area, with the result that the California authorities may direct its use to the greatest public advantage. *Re El Paso Nat. Gas Co. Opinion No. 333, Docket No. G-12580, November 27, 1959.*

Expensive Railroad Crossing. The Delaware court of chancery held that a railroad has the duty to construct, at its own expense, only that portion of a road crossing lying within its tracks, not the portion outside the tracks but within its property lines. *Mayor of Laurel v. Delaware R. Co. et al. 154 A2d 762.*

Crossing Obstruction. The Indiana appellate court held that anything which interferes with the eye of a traveler and an approaching train, such as the height of the road and the angle it forms with the tracks, is an obstruction within the meaning of a statute requiring the commission to order a railroad crossing to be equipped with a flagman or automatic warning device where the view of approaching trains is obstructed. *Monon Railroad v. Indiana Pub. Service Commission, 161 NE2d 626.*

Telephone Company Return. The Illi-

nois commission granted a telephone company increased rates which would produce a return of 3 per cent on the fair value rate base. *Re Western Illinois Teleph. Co. No. 46081, October 20, 1959.*

Ski Lodge Contract Carrier. A ski lodge which transported guests to and from the lodge at specified charges was held by the Utah commission to be a contract carrier since the service was not so closely associated with the lodge business as to be a necessary incident of it. *Gibbs v. Salt Lake Transp. Co. Investigation Docket No. 75, September 21, 1959.*

Agency Station Remains Open. In requiring a railroad agency station to remain open, the Utah commission pointed out that the primary consideration in such a case is the public convenience and necessity and that the question of profit or loss in the operation is of secondary importance. *Re Union P. R. Co. Case No. 4418, October 2, 1959.*

Fish Passage in Power Project. As a condition to the licensing of Portland General Electric Company's power project on the Clackamas river in Oregon, the Federal Power Commission required the licensee to consult with federal and state authorities to determine a mutually satisfactory program for the purpose of testing and evaluating the fish passage facilities at the project, with the cost of the program to be borne by the licensee. *Re Portland General Electric Co. Project No. 2195, October 22, 1959.*

Construction Work in Progress. The Connecticut commission held that construction work in progress and contemplated construction should be excluded from the rate base of a utility. *Re Unionville Water Co. Docket No. 9799, October 22, 1959.*

Rate Reduction Request. The Louisiana commission dismissed a complaint filed by water company customers alleging that rates were excessive where the rates were actually lower than those of other companies operating in the area and the testimony of the complainant dealt largely with service deficiencies. *Kiroli Community Corp. v. Nichols Bros. Water System, Docket No. 8005, Order No. 7954, November 10, 1959.*

Bus Operating Ratio. The Florida commission approved a rate increase proposed by a motorbus carrier where the expected operating ratio would be 96.12 per cent. *Re Greyhound Corp. et al. Docket No. 5381-CCB, Order No. 4862, November 12, 1959.*

Sale of Telephone Utility. The sale of a small telephone company was authorized by the Illinois commission at a reasonable price where it appeared that the purchasing utility would convert the acquired facilities to dial operation, maintaining existing rates until the conversion is completed. *Re Shobonier Teleph. Co. et al. No. 46126, November 17, 1959.*

Transit Operating Ratio. The Connecticut commission granted a transit company a rate increase which would result in an operating ratio of 97 per cent. *Re Bristol Traction Co. Docket No. 9808, November 23, 1959.*

BAY FRONT STEAM GENERATING PLANT LAKE SUPERIOR DISTRICT POWER COMPANY *80,000 kw — 6 Units*

Power on Lake Superior . . .

Lake Superior District Power Company is following a program of continual expansion in Northern Wisconsin and Upper Michigan to keep pace with the area's rapid recreational and industrial development. A modernization project recently completed at the Bay Front Steam Generating Plant resulted in the installation of 65,000 kw of modern generating capacity. This expansion program follows closely an aggressive promotion of electric power. This policy has been influential in increasing the residential use of electricity to more than 25% above the nation's average.

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Industrial Progress

g Island Lighting Announces $48,000,000 Program

NG Island Lighting Company is ning to spend more than $48,000,- in 1960 for the construction of electric and gas facilities on Long d according to a statement by J. Tuohy, LILCO's president. as stated that this amount exceeds 959 budget figure by $3,000,000. the last five years expenditures construction of new plant and pment to serve Long Island con- ers have totaled over $236,000,- " the president said.

r. Tuohy disclosed that, "of the million, $32,000,000 will be spent new electric generating plants related equipment such as trans- ion and distribution lines and tations; $11,000,000 on gas prop- s, mains and services; and $5,- 000 for the erection of gas and ric operations centers, such as the recently placed in operation at twood and one now being con- cted on 14 acres in Hewlett.

The $32 million allocated for ric construction includes the pletion (for operation late in 0) of another 185,000 kilowatt ric generating unit at Port Jeffer- , and the start of the new gen- ng plant at Northport. About 000,000 will be spent on the thport site by the time the first rating unit goes into operation." ncluded in the construction pro- n are plans for a 100,000 kilowatt k-meeting" or "peak-shaving" ric generating unit. It is sched- for 1962 operation and will be t at the E. F. Barrett site in Island , Nassau county.

inois Power to Spend at Least $24 Million in 1960

LINOIS Power Company expects vest $24 million in new facilities 960, Allen Van Wyck, president, announced. This figure might be increased by as much as $6 million for additional gas facilities if enough natural gas becomes available next year, he said.

The company spent about $31 million for construction in 1959, down from the original estimate of $36 million, he said. The decrease was due to a reduction of more than $3.5 million in expected building costs of a 225,000-kilowatt generating plant.

The company plans to spend $12.3 million on electric facilities and $11.7 million on additional natural gas facilities next year, according to the announcement.

Present plans call for construction expenditures of approximately $30 million in 1961 and about $37 million in 1962. Mr. Van Wyck said projections of customers' demands for electricity indicate the need for an additional generating unit of 300,000-kilowatt capacity some time in 1964 or 1965.

C.&P. Tel. Co. to Spend $3.8 Million in First Quarter

OVER $3.8 million was appropriated by the board of directors of The Chesapeake and Potomac Telephone Company, at its recent regular monthly meeting.

According to H. Holmes Vogel, vice president in charge of the Washington Company, this appropriation will be expended during the first quarter of 1960 on a number of projects required to meet the continuing demand for telephone service. He said that during 1959 over $17 million was spent on new construction in the District of Columbia.

Telephones in service in the District of Columbia at the end of the month numbered 617,649, an increase of 22,718 over the same month last year.

Illinois Bell Plant Outlay Sets Record

ILLINOIS Bell Telephone Company's outlays for plant and equipment in the last quarter were the highest of any quarter in company history, according to William V. Kahler, president.

New construction of telephone plant as part of the company's modernization program totaled close to 45 million dollars in the final quarter of 1959.

In the quarter about 30,000 new main telephones were added to the system compared with an addition of 24,600 main phones in the fourth period in 1958, Mr. Kahler said.

Georgia Power Reports $55 Million Expenditure In 1959

GEORGIA Power Company invested approximately $55 million in new electric facilities during 1959. Work was completed on the 60,000-kilowatt Oliver dam, a $14.4-million hydroelectric generating plant on the Chattahoochee river at Columbus, and on the $15-million new generating unit at plant McManus at Brunswick. The unit added 75,000 kilowatts to the generating capacity of plant McManus. Total generating capacity of the Georgia Power Company at the end of the year was 1,831,270 kilowatts.

Work continued on the Southern Electric Generating Company's steam plant on the Coosa river in Alabama. The new plant is owned jointly by the Georgia Power Company and the Alabama Power Company and will have a generating capacity of a million kilowatts. Two of the plant's four units of 250,000 kilowatts each are scheduled for completion in the summer of this year.

Work was completed during 1959 on a 230,000-volt transmission line, 125 miles long, from Columbus to

(*Continued on page 22*)

This is not an offer of these securities for sale. The offer is made only by the Prospectus.

NEW ISSUE

$10,000,000

The Washington Water Power Company

First Mortgage Bonds, 5⅜% Series due 1990

Dated January 1, 1960 — Due March 1, 1990

Price 101.12% and accrued interest

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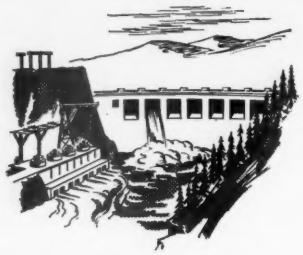
January 7, 1960.



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$5,000,000

The Washington Water Power Company

5⅝% Sinking Fund Debentures due 1985

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January 7, 1960.

INDUSTRIAL PROGRESS—
(Continued)

Tifton. Cost of the project includi a $950,000 substation under constru tion at Tifton, will be more than $ million. Construction also was start on a 57-mile, 230,000-volt line fr Morrow, near Atlanta, to the ne Southern Electric Generating Co pany plant. This line, including su station and terminal equipment, w cost over $2 million.

Public Service of Colo. Budge Nearly $32 Million for Construction

NEARLY $32 million—approxima ly $2 million more than was spent 1959—for construction of new faci ties in 1960 was authorized in t November meeting of the board of rectors of the Public Service Co pany of Colorado.

Expansion of the company's el trical facilities under the 1960 pr gram will require $21.7 million which $9.7 million will be used f electric distribution, $5.2 million f transmission, and $6.8 million for a ditions to the company's elect generating stations.

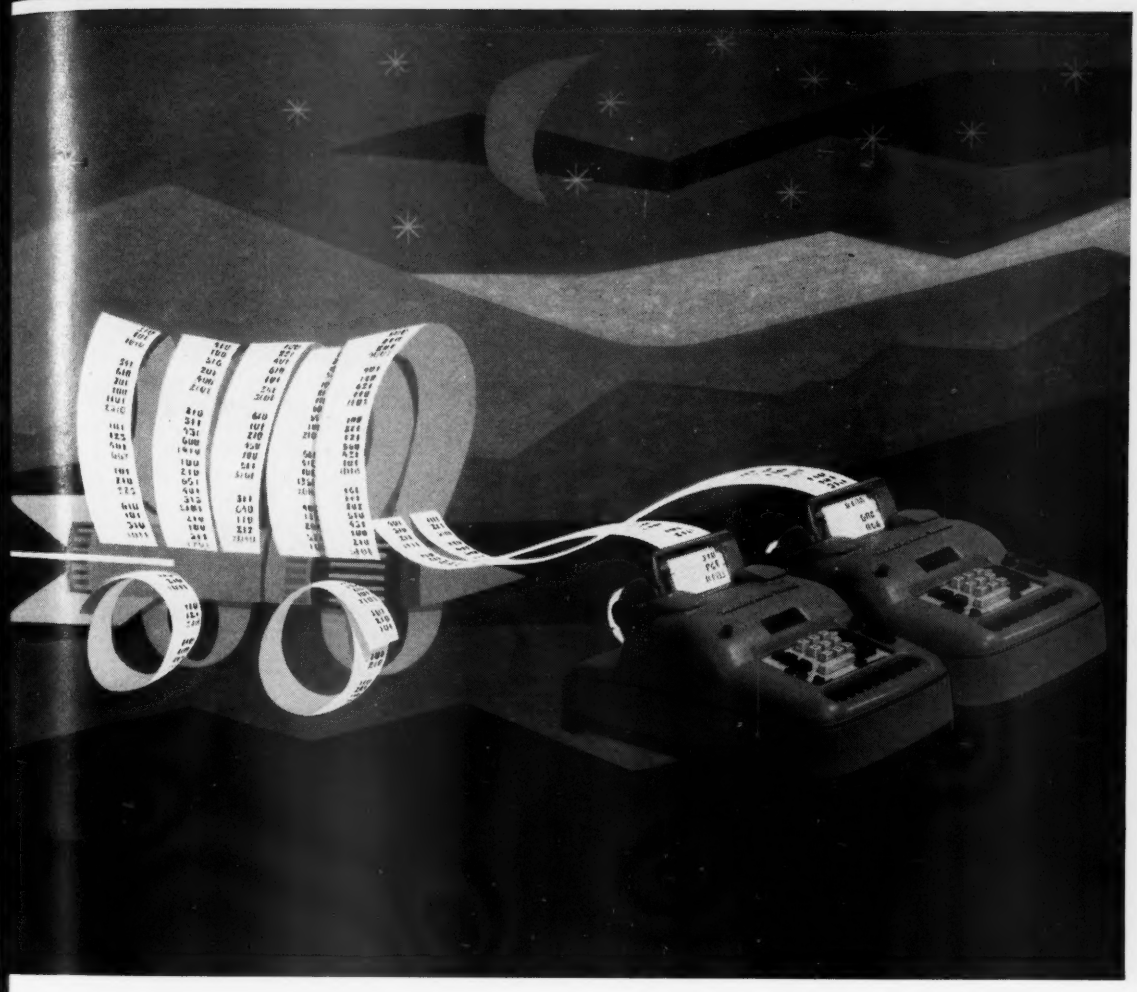
Natural gas facilities will requ $7.8 million, the Steam Heat depa ment in Denver, $337,000, and co mon and general plant will call f expenditures of $2,041,000 duri 1960.

Included in the 1960 plans for g erating facilities is the completion the 44,000 kw second generating u at Cameo station (near Grand Ju tion), and the start of construct next spring of the 150,000 kw th unit at Cherokee station (north Denver) which is scheduled for co pletion in 1962.

Brochure Unveils New Pole Type Transformer Line

A 4-page, 3-color brochure which troduces Uptegraff's new line of p type distribution transformers and lustrates its twelve comprehens design features has just been issu Copies are available by writing R. Uptegraff Manufacturing Compa Scottsdale, Pa.

(Continued on page 24)



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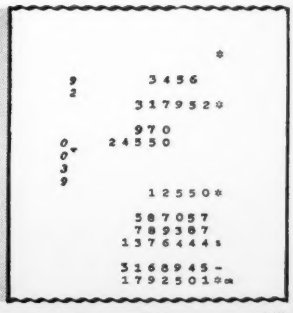

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Capability to Automate Steam Stations Announced by General Electric

COMPLETE automation of steam generating stati is now an engineering and economic reality, accord to General Electric spokesman who also announced company's readiness to undertake full automation generating plants.

Arthur F. Vinson, vice president and group execut of the company's Apparatus and Industrial Gr up, s "The recent development of transistorized dig tal c puters compatible with existing sensing devices nd a matic sub-systems has made the automatic stea n sta an engineering reality. The application of s ch c puters to provide continuous precise control o the g erating function will make the automatic stea n sta an economic reality."

Citing General Electric's present contract o sup equipment to automate two new generating units Southern California Edison Company's H nting Beach station, Mr. Vinson said both techn logy "hardware" are available to do the job effect vely economically.

General Electric expects the Huntington Beach tion to go into full automatic operation by the end 1960.

W. J. McLachlan, General Electric's manager of e tric utility engineering, said that a 500,000-kilow steam station could realize capitalized savings of ab $1\frac{1}{4}$ million to $2\frac{3}{4}$ million through complete automati "Installed cost of equipment to automate a steam tion runs about $1 million more than the cost of conv tional control equipment," he said, "so that would m that a station of this size could pay off its investm in a relatively short period."

Chief savings from automation will stem from proved reliability which will reduce the forced-out rate of the giant powermakers, Mr. McLachlan s "By improving reliability by as little as one-quarter one per cent, automation would provide capitalized s ings of as much as $750,000 for a 500,000-kilowatt tion," he said. "By increasing reliability by one-hal one per cent—which may be feasible—savings c reach $1\frac{1}{2}$ million."

More precise control of operating conditions w provide further economies through reduced m tenance, Mr. McLachlan said, by eliminating un stresses resulting from excessive rates of temperat and pressure changes and other equipment-damag conditions. This, he indicated, could add up to $750 more to the capitalized-savings figure.

Improved fuel economy can also be expected to p vide savings, he said. Instantaneous feedback of data operating conditions will enable the system to achi optimum fuel economy through continuously pre loading. Initial estimates of capitalized savings to realized from a one per cent increase in fuel econo range as high as $500,000 for a half-million-kilow station.

Mr. McLachlan said that it is "extremely diffic to estimate the dollar savings that such ntangi would provide. "Suffice it to say, however, that a sion of a single catastrophe would, in itself, justify cost of automation many times over. As gener ating u increase in size and dollar value, the potential cos a catastrophic mistake grows proportionally greater.

Although human operators will still be required maintenance and supervisory duties, complete auto tion would provide automatic hot and cold start ing,

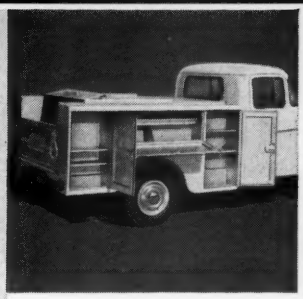
(*Continued on page* 26)

Handy Dodge Tradesman saves you time, cuts your costs

Handiest thing on wheels, this new Dodge Tradesman! Its roomy compartment-type body helps keep your tools neatly arranged. Cuts costs by helping you accomplish more work in shorter time. Spacious floor area holds the bigger items you haul. Ladder racks and sliding roof are available.

As for the *rest* of the truck, it's everything the Dodge name promises. Dependable. Husky. Easy to drive. *Thrifty*, too . . . with your choice of a 120-hp. Six or 200-hp. V-8. *Both engines thrive on a lean diet of low-cost regular gas!*

The Tradesman rolls off the Dodge production line as a complete unit, equipped to your specifications and ready for work. It's available for quick delivery at low cost through your nearby Dodge dealer.



DODGE TRADESMAN has lock-up compartments for supplies, fittings, tools. Open, doors of horizontal compartments form handy "workbenches".

DODGE PANELS provide 155 cu. ft. of enclosed load space on a compact 108-inch wheelbase. Tops in driving ease and eye-catching style!

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mal and emergency shutdown, data logging and alarm functions, continuous performance calculations, and constant supervision of the boiler-turbine-generator system.

Westinghouse Announces Development of Rugged, Modular Industrial Control Computer

THE Westinghous Electric Corporation has announced plans to build and market an industrial control computer whose speed, input-output capacity, and memory can be precisely matched to the needs of a particular process by the addition of semistandard "function-modules." It will be sufficiently versatile for use in general industrial and electric utility applications, and sufficiently rugged for use in industries with severe environmental conditions, notably the chemical, paper, petroleum and steel industries.

The flexibility afforded by this new approach will make it possible for Westinghouse to supply a great variety of complete control computer systems. It will also be a major economic benefit to the user of the system since the computer installation can be modified as process requirements change.

Also contributing to flexibility will be the computer's construction. Dr. R. L. Bright, project manager for development of control computer systems has said that the basic computer will use static devices exclusively and that it will have reliability equal to or better than that of typical heavy-duty production equipment. It will be suitable for installation in the immediate vicinity of the process equipment it controls.

In commenting on the announcement, K. M. Patterson, director of industrial sales, pointed out that development of the control computer does not signify any intention to build computers for general business use. Instead, he said, "this development program was undertaken solely because of our conviction that industrial computers must be compatible with the electrical and electromechanical equipment used by industry; not only in function, but in every aspect of performance. We believe our understanding of industrial processes and electric utility operations and our experience in building industrial drives and control systems, gives us a unique ability to build computers having this compatibility."

In making this announcement, Westinghouse went no further in discussion of the computer design than saying that the functions of the system are grouped in three divisions: quantitative data processing and control; logical data processing and control; and priority direction.

The quantitative data processing and control function consists of measuring analog quantities or preconverted digital equivalents, providing analog outputs, logging of data, accepting data from operating personnel, and performing calculations.

The logic operation portion of the computer receives instructions stored in a magnetic core memory, and under their guidance, controls off-on devices such as valves, contactors, and breakers, and performs other logical operations.

The priority director can control a number of sequential operations of equipment simultaneously on many parallel paths. In addition, it will control the interruption of any or all of the sequence paths when predetermined variables move out of limits, and designate the location in the memory unit to which the computer control will transfer if an off-limit quantity occurs.

Ohio Edison and Pennsylvania Power Announce Construction Plans

WALTER H. SAMMIS, President of Ohio Edison Company, announced that expenditures for additions and improvements to the property of Ohio Edison Company and Pennsylvania Power Company for the calendar year 1959 approximated $53,390,000 and $4,020,000 respectively. Similar expenditures in 1960 are estimated at $55,531,000 and $3,716,000 respectively.

Pipe Line Firm Asks FPC To Approve Expansion

MICHIGAN Wisconsin Pipe Line Company, an affiliate of American Natural Gas Company, asked the Federal Power Commission to approve a $73.5 million expansion program which will increase its capacity by 333 million cubic feet of gas daily in 1960.

About 65 per cent of the additional gas supply will be bought by American Natural's distribution subsidiaries, Michigan Consolidated Gas Company and Milwaukee Gas Light Company.

Northern Natural Gas Company has filed two F.P.C. applications, one requesting permission to serve Mic[h]gan Wisconsin Pipe Line Compa[ny] 75 million cubic feet of natural g[as] daily and the other to increase [the] supply of gas to presently served c[us]tomers by 78 million cubic feet a [day] for the 1960-1961 heating season. T[he] cost of the two projects is estima[ted] at $41.5 million.

UGI Expects to Spend $7,000,000 in 1960

UNITED Gas Improvement Co[m]pany expects to spend about $7,0[00],000 in new construction during 19[60], according to Edward H. Smo[ley], president. This would be off shar[ply] from $12,973,000 budgeted for 19[59], but generally in line with capital e[x]penditures prior to the building of [the] Hunlock Creek generating unit o[f] the past two years. Approximat[ely] $6,000,000 was spent in completi[ng] the unit this year.

$100,000,000 Program Planned By Columbia Gas System

CONSTRUCTION outlays of Co[-]lumbia Gas System, Inc., in 1960 a[re] slated at about $100 million, with m[a]jor items the same as in 1959. Dur[ing] 1959 expenditures totaled about $[1]00 million, of which $30 million went [for] transmission facilities, $25 million [for] distribution and about $23 million [for] production and gas storage.

$119 Million Program Announced By Atlantic City Electric

BAYARD L. ENGLAND, Boa[rd] Chairman of Atlantic City Electr[ic] Company, in a year-end report a[nd] forecast for the coming year, said th[at] $119 million have been budgeted [for] the next five years for new compa[ny] construction projects, including a n[ew] generating station, the completion [of] an accounting and data processi[ng] center, and other general construct[ion] plans. This represents the largest co[n]struction program in the compan[y's] history.

During the next five years the co[m]pany will reach one quarter bill[ion] dollars invested in facilities to se[rve] Southern New Jersey. This will [be] five times the company's plant inve[st]ment in 1947.

The company's new generati[ng] station, the first power plant to [be] built in the Coastal region since 19[47] scheduled for completion in 1962, [at] cost $27 million. It will be located [on] the Great Egg Harbor river in Up[per]

wnship Cape May county. The t generating unit installed at this plant will have a capability of ,000 kilowatts. It will be a semi-door power plant with boilers and erators located outdoors and tur-es housed in the main building.

nerican Electric Power System o Spend $112 Million in 1960

HE American Electric Power Sys- has budgeted $112-million for its 0 construction program, it was an-nced recently. Slightly under 1959 ital expenditures of $115.4-mil-, it is the fifth consecutive annual lay to exceed the $110-million rk.

President Philip Sporn, in making announcement, said that the build- program for 1960 will help the P System keep ahead of the grow- demand for electric power in, and timulate growth of, the area which erves. This area includes parts of en states: Indiana, Michigan, io, Kentucky, Tennessee, West rginia and Virginia, with a popula-n of more than 5-million people.

Mr. Sporn added that the AEP tem during December established ew all time peak load of 4,730,000 watts, an increase of 9.2 per cent r 1958 and the highest peak ever blished by a private utility.

With the completion of the con-uction work contemplated in the 60 budget, the total capital expendi-es of the AEP System during the year post-World War II period l reach in excess of $1.4-billion.

Largest expenditure in 1960 will be -million for power plant construc-n. Included in this figure is $20.6-lion earmarked for the substantial mpletion of Ohio Power Company's ,000-kw Unit 5 at the Philip Sporn nt, Graham Station, W. Va., eduled for operation in late 1960. her items include $7.3-million for beginning of construction of the ently announced 225,000-kw Unit 3 Appalachian Power Company's nch river plant, Carbo, Va., and 6-million for the substantial com-tion of the 450,000-kw Breed plant Indiana & Michigan Electric Com-y in Sullivan county, Ind.

Close runner-up as an item of ex-se is the figure of close to $40-lion allocated for extension or im-vement of the system's widespread tribution system. Of this amount, -million will go for lines and $5.8-lion for substations.

Budget for transmission line construction is $10-million and for transmission substations, $5.4-million.

A breakdown by companies shows that Ohio Power has budgeted the largest amount—$43.7-million. Appalachian will spend $35.3-million; Indiana & Michigan, $24.4-million; Kentucky Power Company, $2.7-million; Wheeling Electric Company, $1.9-million; and Kingsport Utilities, Inc., $850,000.

$35 Million Program Planned By Arkansas Power & Light

TO meet the growing power requirements for new industries and the demands for additional service by all customers, Arkansas Power & Light Company's 1960 construction and expansion program will require expenditures of nearly $35 million.

The 1960 program is the largest since 1953. It compares with an expansion program of some $32 million in 1959.

The major share of the 1960 budget is earmarked for the new 325,000 kilowatt steam electric station now under construction on the banks of the Mississippi River, near Helena. Construction costs at this project will amount to nearly $19 million during the new year.

Other construction expenditures for 1960 are estimated at $5.1 million for construction of high-voltage lines and substations; $9.4 million for extending and improving urban and rural distribution lines and substastations; and $1.4 million for the construction and remodeling of company office and service facilities.

New York State Natural Plans $5,906,000 Program

NEW York State Natural Gas Corporation says it plans an investment of $5,906,000 in its production, transmission and storage facilities during 1960. The Pittsburgh firm wholesales natural gas to 18 major distributing companies in Pennsylvania, New York and Ohio.

Major projects during the coming year will include:

The drilling of 42 gas wells in Pennsylvania and New York. Of these, 30 will be development wells in proven areas and 12 will be in regions where New York Natural is exploring for new sources of gas.

The construction of new field lines and installation of measuring equipment in production areas where the company is drilling.

Completion of underground gas storage projects started in 1959.

The supercharging of five engines at its Sabinsville, Pa., compressor station and one engine at its Preston compressor station near Waynesburg, Pa.

Company management forecasts an increase of 8.3 billion cubic feet to 173.5 billion feet in sales during 1960 and anticipates that sales volumes will increase almost 28 per cent within five years.

New York Natural's sales volume for 1959 was 165.2 billion cubic feet of gas as compared with 152.4 billion cubic feet in 1958, an increase of about 9 per cent.

In its seven large storage pools, six in Pennsylvania and one in New York, the company had an inventory of 167.1 billion cubic feet of gas on October 31, 1959, compared with 165.1 billion feet on the same day in 1958. It anticipates a 1960 peak inventory of 185.6 billion feet.

Iowa Power & Light to Expand

IOWA Power & Light Company of Des Moines plans to build a 150,000-kilowatt generating plant near Tracy, Iowa, N. Bernard Gussett, chairman, said. Design details of the new facility, which will cost an estimated $20 million, are expected to be completed late in 1960, with construction to start in 1961, he added. The plant will "meet the increasing and anticipated demand for power in the state," he said. Both coal and gas may be used as fuel.

Northern States Power Has 3-Year Program

NORTHERN States Power Company has a three-year construction program amounting to $141,000,000. Approximately $56,000,000 will be spent in 1960, or $10,000,000 more than was spent last year.

Highlights of the 1960 plan, according to Allen S. King, president, will be completion of a $24,000,000 172,000-kw addition to the Black Dog generating station and a $4,800,000 start on major construction of the N.S.P. atomic generating plant near Sioux Falls, S. D.

The three-year program is scheduled for completion in 1961.

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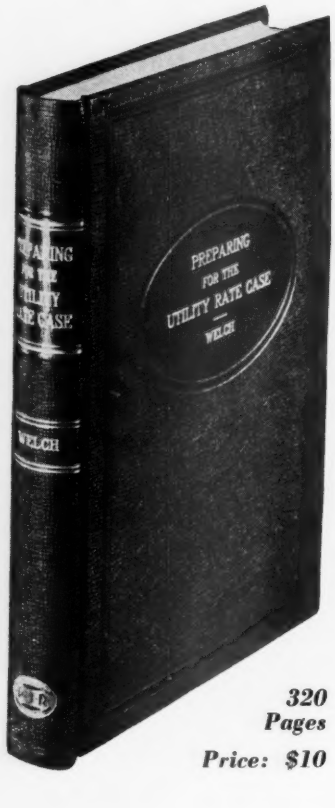

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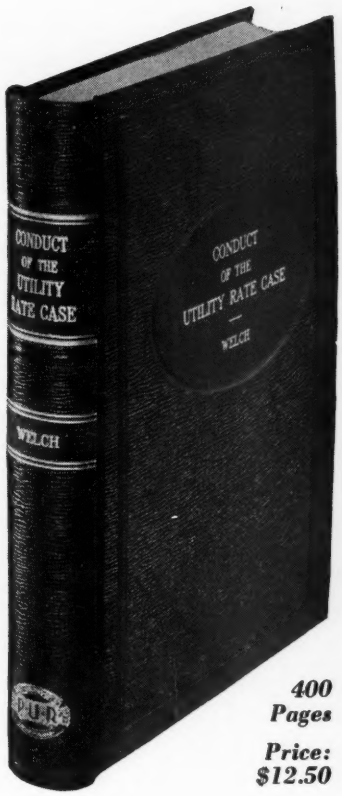

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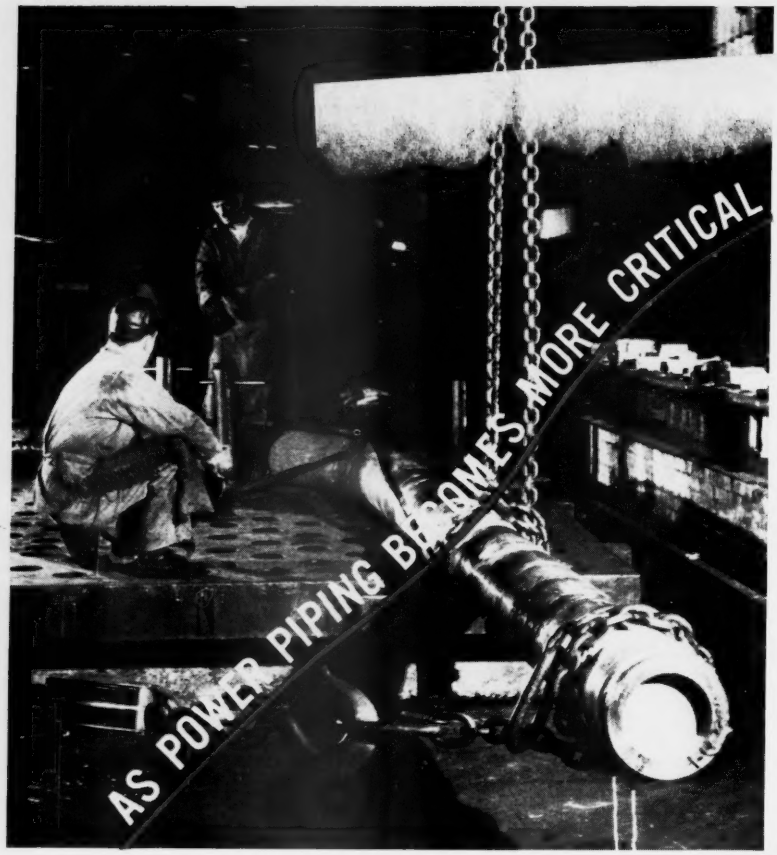

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